The Builder.

No. CCCXC.

SATURDAY, JULY 27, 1850.

HOW much longer shall we allow 15,000 persons to be annually cut off, unnaturally and prematurely, in this gay and wealthy metropolis? How much longer shall the pain, misery, and waste of money, consequent on the want of proper sanitary arrangements, be borne and suffered? We have often asked the question; we have long endeavoured by all the means in our power to convince the public, how much misery and loss might be prevented by simple and comparatively inexpensive measures, and we must continue to do so as the best mode of bringing about the changes so much to be desired. "Let it be remembered that a sickly population is one of the most costly burdens of a state. Health is the poor man's capital in trade; and whatever deteriorates that entails a direct loss, and eventually a heavy money charge, upon the community. The enormous amount of poverty and destitution in this country, and the consequent necessity for an impost of nearly 8,000,000*l.* sterling annually for its relief, are in a great measure due to the pauperizing effects of preventible disease." But these are not the only social evils involved in this important inquiry. The localities that are the nurseries of sickness and death, are almost invariably found to be the haunts of immorality and crime. Filth and squalor are as productive of moral debasement as of physical depravation; the two natures of man are so intimately connected, that the defilement of the one is generally associated with pollution of the other.

If the proprietors, architects, and builders who read our journal, instead of merely admitting the truth of what is constantly being said in it on this subject, and agreeing as to the worth of suggestions made in it for bringing about an improved state of things, would carry these suggestions into effect in the course of their practical operations, they would most materially assist in benefiting the world. Routine so thoroughly possesses us, that nine men out of ten who rise from the perusal of an article showing the evils of some ordinary mode of construction, or of the want of certain arrangements, thoroughly convinced of the truth of it, will, in the next house they build, follow the old road, and continue the erroneous mode, or omit the required arrangements.

Before we can hope to see much good done, the public must be made to feel thoroughly the necessity of the change demanded.

The Metropolitan Sanitary Association, to aid in bringing this about, have just now issued their first report, headed, "The Public Health a Public Question,"* which, it is to be hoped, will awaken public attention to the subject. It comes at a moment when precautionary measures are much needed, but when, unfortunately, legislators are not very likely to move. The society have already been active; deputations of the body have attended the prime minister and others on leading sanitary grievances; they have met almost day by day for some months past, and have sent various petitions to Parliament. Money, of course, is needed, and we hope the publication of this report will lead immediately to an accession o subscribers.

Referring to the present Metropolitan Sewers Commission, and the inability of the Commissioners to devote the time required for its extensive operations, the Report says:—"It is not a matter of surprise to this association, under such circumstances, that an outfal for London has not yet been determined—that house and street drainage is not proceeded with—and that even now houses are rotting and becoming most unhealthy, in consequence of the want of communications with sewers within a short distance. The neglect of the Commission to see to the providing of a sufficient current of water to cleanse the sewers is a subject of no little surprise, but the neglect to trap the gullies already existing is calculated seriously to endanger the health of every person who passes by. The greater prevalence of epidemic disease, of late years, taken in connexion with the increasing foulness of the gases escaping from the gully-holes, is not an *accidental* coincidence."

Against the abominable tax on light and health the association protest strongly; urging correctly, "that health is the capital of the working man, and that, whatever be the necessities of the state, nothing can justify a tax affecting the health of the people, and especially the health of the labouring community, whose bodily health and strength constitute their wealth, and oftentimes their only possession.

That a free supply of light and air is essential to human existence, all the experience of sanitary reformers proves. The agricultural labourer, having an abundant supply of light and air, will live longer, and enjoy better health, than the metropolitan working man, more amply fed, but robbed of air and sun: the metropolitan out-door labourer will live longer than the better fed and clothed tradesman who spends the greater part of his life in a close, dark dwelling.

From an analysis of the 60,000 deaths from consumption which annually take place in England and Wales, the conclusion has been arrived at that tradesmen are nearly twice as liable to consumption as the gentry, "owing chiefly to the hot, close, ill-ventilated workshops, in which the former pass so many hours of the day; that in-door labourers are more subject to consumption than those who follow their employments out of doors, though exposed to all the inclemencies of the weather, and earning less wages, and having, consequently, worse food, clothing, and lodging: and that of in-door labourers, those engaged in workshops are more subject to consumption than those employed at home."

What precautionary measures will do for health may be illustrated by reference to the small-pox. In Russia, previous to the introduction of vaccination, one-seventh of the population died of the small-pox. In Denmark, through strict laws relating to vaccination, mortality from small-pox has been scarcely known since 1800. In Bavaria, as long ago as 1820, this disease was exterminated. Yet in England, through care for the liberty of the subject (?), during the three years ending 1840, the average annual deaths from small pox was *twelve thousand!*

Amongst the illustrations of the effect of disregard of sanitary arrangement, the report gives a startling description of a plague spot in the immediate neighbourhood of one of the most beautiful parts of the metropolis, a neighbourhood studded thickly with villas and mansions—namely, Bayswater, and Notting Hill, in the parish of Kensington. It is called the Potteries, and comprises some 7 or 8 acres, with about 260 houses (if the term can be applied to such hovels), and a population of 900 or 1000:—

"The occupation of the inhabitants is principally pig-fattening: many hundreds of pigs, ducks, and fowls are kept in an incredible state of filth. Dogs abound for the purpose of guarding the swine. The atmosphere is still further polluted by the process of fat-boiling. In these hovels, discontent, dirt, filth, and misery, are unsurpassed by anything known even in Ireland. Water is supplied to but a small proportion of the houses. There are foul ditches, open sewers, and defective drains, smelling most offensively, and generating large quantities of poisonous gases: stagnant water is found at every turn, not a drop of *clean* water can be obtained,—all is charged to saturation with putrescent matter. Wells have been sunk on some of the premises, but they have become, in many instances, useless, from organic matter soaking into them: in some of the wells the water is perfectly black and fetid. The paint on the window frames has become black from the action of sulphuretted hydrogen gas. Nearly all the inhabitants look unhealthy, the women especially complain of sickness, and want of appetite; their eyes are sunken, and their skin shrivelled.

"It is difficult to state the amount of disease produced by so much organic matter decomposing in the locality, and saturating the atmosphere and water used by the inhabitants. But during three years ending December 1848, there were seventy-eight deaths: of these, sixty-one were under fifteen years of age, fifty-five under five years. The average duration of life in the three years was only eleven years and seven months. In the first four months there occurred twenty-eight cases of small-pox, or *one* to every *thirty-six* of the inhabitants, while throughout the other part of the parish of Kensington, with a population of 97,000, only fourteen cases occurred, or *one* to *seven thousand*—shewing that the potteries district is one hundred and ninety-four times more liable to small-pox than the remaining portion of the parish. The same may be said of typhus fever and some other zymotic diseases."

The report asks if there be no possibility of cleansing this more than Augean stable; and replies, that "the *only difficulty* lies in the fact that some of the worst parts of the district are the property of one of the guardians."

There must surely be some overstatement here.

When it is proved that the money-loss through typhus fever alone in the metropolis, during the five years 1843-47 was 1,328,000*l.*, and that this might have been prevented, the necessity for an Amended Bill for the Prevention of Contagious Diseases must be evident.

The daily removal of house refuse is of the greatest consequence: thousands are slain by its non-removal. When rain falls on a surface loaded with decomposing organic matter (the back-yards of innumerable houses), when warmed by the sun, it readily yields to the atmosphere vapours charged with disease and death.

A striking evidence of the injurious effect of the effluvium of decomposing animal matter was given at the Whitechapel Union, in 1848. Opposite the workhouse, only a few feet off, was a manufactory of artificial manure. In one morning sixty of the children were seized with diarrhœa, and this was attributed, by the medical attendants, to the disgusting effluvium. Legal steps were adopted, and

* "First Report of the Metropolitan Sanitary Association on the Chief Evils Affecting the Sanitary Condition of the Metropolis, with Suggestions for their Removal; and containing the Proceedings of the Public Meeting held at Freemasons' Hall, Feb. 6th, 1850, and of the Deputations to the Premier, the General Board of Health, and the Chancellor of the Exchequer." Published by the Association, 10, Craig's-court, Charing-cross.

after many lives had been sacrificed the works were closed, and the health of the union improved. Five months after a new proprietor opened the premises; some barrels, filled with the putrid matter left by the first, were accidentally broken; the wind blowing from the manufactory, a stench filled the workhouse, and forty-five of the boys were again suddenly seized with severe diarrhœa!

The condition of the dwellings of the poor has engaged the anxious consideration of the association. "They felt, that whatever amount of good was to be effected by sewerage and drainage, by extramural burial, by better constructed houses and streets, by an abundant supply of pure water, and other sanitary improvements, there was an urgent necessity for bringing directly home, in a prompt and efficacious manner, to the existing dwellings of the poor, those sanitary improvements which increased knowledge, ability, and appliances have placed within our reach. The condition of the dwellings of the poor and of the industrial classes is a chief cause of the excess of deaths and of the prevalence of disease, poverty, immorality, and crime in the metropolis."

The physical circumstances in and around a dwelling are a measure of the health and comfort of the tenants. Where there is manifest unfitness for healthy existence there can be no home—no permanent happiness—no self-respect, or moral elevation of character. Disease *must* come, and with it a whole train of depressing, vitiating, and pauperising influences.*

"The example set by those interested in improving the dwellings of the poor, has hitherto been followed, in various parts of the metropolis, by few individuals only: the total result, up to the present time, is that which has been just stated. The public, therefore, for many years—perhaps for a century—cannot look for a sufficiency of healthy dwellings, if they are to trust to the operations and influence of voluntary associations alone. The force of example operates but slowly; the knowledge of economical sanitary arragements does not rapidly spread; the customs and prejudices of society are stubborn and unchangeful;—while disease is persistent; the sacrifice of life constant; the evil great; the remedy by voluntary changes remote; and the necessity for immediate changes all-powerful.

The Association contend it is the bounden duty of Government to step in and afford to the public that security which it is utterly out of their own power by any knowledge, ability, or forethought of their own to obtain for themselves."

The Association appear to have been prompted in their inquiries and remarks solely by an anxious desire to promote the common welfare by leading to the adoption of measures for promoting the public health, and we think they fully deserve the hearty co-operation of all who would lessen sufferings, promote the happiness of their fellows, and save the fearful amount of life, power, and money now annually wasted in this kingdom.

* The want of proper closets is felt very severely in our large towns. Take the following letter as an illustration, just now received from Manchester:—

"Sir,—In the present condition of the sanitary question, it may not be amiss to call attention to the following state of things which exists in this great centre of civilization—the next, perhaps, in importance to the metropolis itself. I have lived for several years in houses in and about Manchester, the rents of which vary from 30*l.* to 40*l.*, taxes 7*l.* or 8*l.* But in no house at either of these rents that ever I have been in was there such a thing as *a water-closet*. The only miserable substitute provided in my present house, and in all others in the district, is * * * *. I occupy a manufacturing establishment in the centre of this city, capable of employing eighty workmen. *No provision of any kind* for this purpose has been ever made. I have agitated both my landlords on this subject for four years, and cannot get it done. They will neither grant me leases nor go to the cost themselves (though I offered one of them 7½ per cent. on his outlay, whatever it might be), but they want to drive me, the tenant, into doing it at my cost, with a view, possibly, to raise the rent as soon as done. Does not this call loudly for compulsory enactment? Pray, Mr. Builder, do raise your powerful voice, and let not the nineteenth century (now half run through) die away under such a reproach. To do good we *must* pass through evil; and agitation seems to be necessary even on this disagreeable subject. In a large city like Manchester there will be numbers of persons, of both sexes, brought up with refined ideas and habits, but on whom fortune has not smiled to such an extent as to enable them, with honesty, to occupy houses at higher rents. It has stirred up the gall within me to pass through our expensive prison lately erected (partly at my expense), to see those decencies provided for malefactors which I cannot obtain myself.—W.

HINTS AS TO DWELLING-HOUSE WINDOWS.

NOTWITHSTANDING the occasional misunderstanding between architects upon subjects and points, it may be presumed that every professional gentleman in England would wish to see a new path struck out, wherein the principles of scientific construction could be pleasingly displayed. By this I do not mean some new style, dissimilar to all former ones; but an order steadily progressing from the styles which have existed, and, like them, based upon incontrovertible principles. The shortest way to a truthful development of accurate designing is, perhaps, within the reach of every architect. And, like many efforts at improvement, the means of reform are within the reach of the reformer's hand, without the necessity of propounding theories or making designs which are as ridiculous as they are unmeaning.

The writer at first proposed to himself the analysis of the present manner of constructing dwelling-houses; but having found it difficult to embody in one article such an important subject, and not wishing to treat thereon in an abstract way, he proposes simply to discuss a portion of the subject: this is the window, the principal feature in which is the arch. On this occasion ornament shall be referred to only in a secondary light, presuming the arch to be an indispensable link in the grand chain of construction.

With regard to arches in general, it is necessary that some meaning should be first found for the word, in order not to make it contradictory to itself. The sense in which it is looked upon, in building, is some durable string of materials, cohesively bonded, truly radiated, and finally keyed, in order to carry a superstructure over some opening. Still, an arch may be one simply, without the necessity of carrying any superstructure; but this must be considered as the consequence of an improved condition of the art, and not merely as an idea suggested by necessity. An arch must have an inclination upwards, whatever may be its shape; and in proportion to the weight bearing thereon, it must have equally strong abutments. An axiom can therefore be established, that—

"An arch shall not yield to the superincumbent pressure." Construction follows, suiting materials to the proper form in which each ought to be built; and not giving to one material the seeming but contradictory appearance of another. Reality and truth, in building, have sufficient ornamental results of the loftiest stamp, without calling in to their disgrace the frivolous and expensive decorations generally used, but not belonging thereto; which have been added, time after time, with the best intention, when the architectural spirit of this nation was almost extinguished.

Instead of going back to the dawn of architecture, I shall commence with the present age, and, if necessary, refer backwards. Thus we find ourselves passing from a very debased condition of existing things, over a wilderness of pseudo-architectural rubbish, until we reach the age in which scientific art began to decline. There is, however, one instance whereat the artist is compelled to rest and laugh. In the year 1745, I think, one Batty Langley published a work in London, reducing Gothic principles to five orders, for the purpose of giving them a fixed position. All persons must admit that he did so, with the greatest zeal, to further the spirit of his day, and to re-establish what he thought was the congenial art of this nation. The principal point of failure was, how to make the window, a Gothic one, reconcileable to the wants of the current age. However, now his work looks ridiculous, not contemptible; and whilst the artist smiles at the feeble attempt, he cannot escape the lesson which his publication teaches, that "copying perfection is superior to designing imperfection."

The commonest feature in modern dwelling-houses is the window. Let any person acquainted in the very least degree with construction, look at it, and behold how it is done. He sees a straight camber arch composed of bricks. This is in itself quite contradictory, and made positively so, by filling up the real, and cutting and pointing false joints in rectilinear lines, with imaginary closers; but it is done so, and considered to be a very neat affair in building—one of the *maxima* of modern artificers' work, superior even to the carpenters' boast—whilst in reality it is the most debased idea of the most debased style that could be possibly introduced in the most corrupt and neglected age.

It is not worth the consideration of a moment to inquire when this sort of window-head was first used, but it must be perfectly modern, because we cannnot find arches of that description in any of our old mansions or smaller houses. All square openings, in houses of residence, for a long period, had lintels of wood, and the few found in churches had stone lintels. In some old houses we find narrow segmental brick arches turned over these lintels, and also over the space occupied by the projecting window. Thus are such old houses correctly constructed, and the flat wooden or stone window-heads must also be correct. Wooden lintels are not displeasing to the eye, as they are used through necessity to carry the superstructure; and more so because the mind is satisfied that they can support the weight, which is not the case with reference to the brick camber arch. Wooden lintels may be even tastefully introduced with satisfaction; and if done so on a liberal scale, may be ornamented to superfluity. Stone is the truthful maintenance of an opening, and the eye is not deceived in it, because we know that stone will retain its durability. The principle is also founded on the examples of antiquity, back to a rude and even a primitive age.

A question may here arise that as iron is now being generally used, and so easily cast to any form at a cheap rate, why not make use of it in window arches, and give it the shape we desire it to have in our designs? The answer thereto is derived from the very maxim which we now endeavour to establish in architecture—that every material should without any discolouration represent itself. There is no individual in existence who would wish to see iron in his residence as a prominent feature, either in its primitive nudity, or painted so as to exactly represent iron. But there is a more absolute reason for rejecting it: iron will not bond. It is not a building material, because it will not enter into cohesion with building materials in general by mortar or cement. And though it is a good bearer, it can never look well to the eye, for the mind naturally rejects all incongruities, even when the design is flattering.

The general figure of all windows, in our present dwelling-houses, is rectangular; and if questioned thereon as to the probability of making any laudable change, so as to give the structure an unique appearance, architects, in general, will tell you it is impossible. They are limited to thirteen, twelve, eleven, and sometimes ten feet of story. This is the reason also that places square-headed windows, surmounted by brick camber arches, and a doorway with a semicircular or an elliptical head, in the same building; because they are compelled, by necessity, to give as much light as they can: in a low story they must do so at the expense of every rational and geometrical principle.

Still they contrive to design square windows with a tolerable degree of variety. Sometimes the ground-floor windows are made strangely long, whilst those of the chamber floor, which may not differ 6 inches in height from the lower one, are not so tall by one-fourth. Occasionally the chamber lights are made 6 inches narrower, to give a sort of proportion to them. The chamber openings are sometimes longer, and those of the ground-floor give that story the appearance of a basement. The sills of the windows are often continued round two fronts, like a string; but many architects only use simple sills, and introduce an independent stone table, at 18 inches below them. But the staircase window differs from all the rest—a long, narrow, ecclesiastical-looking thing, with a semicircular head.

Another variety has been introduced into the brick camber arch, by those who fancied they were doing so to give it a good effect; and

this is the partial introduction of stone. The Romanesque bulks may be sometimes seen in the elevations of our loftier grade of architects, ornamenting both the jambs, the springings, and the arch-key. I have seen the arch itself with a ponderous stone key in it, sufficient, if not maintained by an iron curb, to break down the whole; on which occasion, I must admit, the arch was slightly tilted. There may hereafter arise a necessity for employing this description of arch in the basement of dwellings, but it must be derived from some source, the legitimacy of which will depend on necessity; on which occasion I fancy that no false joints need be introduced, nor any other building feature that may make us, by drawing imaginary conclusions, think that the edifice is upheld by magic.

Square-headed windows do not belong to a style of building roofed prismoidally. Anything rising from the mere horizontal line would ease the mind of the notion now imparted—that a person may take an afternoon's airing on the roof of the premises. A square window is in appearance very base; and it is sufficient, in point of feature, to condemn any domestic design. No person would object to seeing it in a prison; and perhaps it may suit the hospitality of a workhouse. But where there is a feeling to live, and another to independently enjoy the comforts of this world, above the sphere of prison or workhouse discipline, surely those who are sufficiently independent to do so should construct their windows differently, and make them fully expressive of themselves.

A square-headed window is really a Gothic one; and the idea of bringing an arch to a straight line is equally so. Murphy, in his introduction to the Monastery of Batalha, says that the square windows in the refectory of that edifice are absolutely in accordance with the style of the building, and that no other sort of opening would answer the position in which they are placed.

An architect and his clerk will select one of the four faces of a good-sized house, value perhaps 2,000*l.*, in order to give it an effect. Upon this front, particularly in point of window, they lavish expense at the cost of all the others. The consequence is, that a person coming by the backway to the premises, on an invitation, cannot recognise it, were he previously introduced by the front door. Mainly, it is something in the Roman style or school, as far as free labour can be made tantamount to forced work; but in the rear it is the exterior of the Alhambra. There is one face for the road and another for the cows. Now this is all on account of the windows. They give a decoration to one face, which disappoints a person when viewing the others; and what with narrow, stunted, pointed, and semicircular openings, one imagines himself translated from reality even to the country of the Laputians.

They have gone so far lately, in their estimation of the *straight* brick camber, as to get fire-brick cast into entire window-heads representing this miraculous arch, with all the joints, closers, and radiations cut perspicuously. I found them in several places in Manchester, and was surprised how they even kept their positions, without any superincumbent pressure. They do not look well; and those who have countenanced them wish them away. What can look well, in a permanent structure, that shows an imaginary feature? Here is one of the noblest traits in architecture—an arch—so hypothetically used that it cannot maintain itself.

When putting decoration on the front of a house, an architect will certainly use a little quantity of stone, for the purpose of giving his design an effect. The house must have a noble entrance, and this absorbs his means nearly, particularly if the proprietor require an Ionic entablature. However, the architect goes a little farther, and takes the liberty of dressing the window over the porch with stone; sometimes with columns; at other times with architraves; but always finished with segmental or triangular pedimental heads. Then the other sister windows mourn in the nakedness of brick, because this one is so much exalted above them, for no other reason than that the builder took a liking to it. And there is a greater objection to the singular favour; for oftentimes the ornamented window is only that of an insignificant room over the vestibule. I noticed a house lately in the neighbourhood of a town not far from Manchester, one that from size and appearance may be considered a second-class mansion, and was surprised to see one of the windows with a pointed arch. On inquiring the particular apartment which it lit, I was informed that it was the window of the bath-room and water-closet.

When a mansion is constructed with a stone front, and the design is got up with what is termed first-rate talent, we find a few diminutive columns supporting a prostyle porch, with its clumsy square-headed entablature; insomuch that the porch does not seem an integral portion of the building, but something detached, chapel-wise; and a more forbidding feature cannot be placed in front of a house than a prostyle porch. Where we find the columns shot up to the roof, in some Grecian villas, the beholder is at once struck with the notion that he is viewing some public structure. But on the former point, the idea is ridiculous; because each window is as much an opening in the mansion as the door, and they should be also projected to make them harmonize. They are on the face of the wall, some with moulded architraves, others with small Ionic columns supporting segmental or triangular pediments, more with ponderous entablatures surmounted by a broken blocking, that forms the stylobate of another row of windows, quite different in features and design. In fact, such is the variety of styles introduced, where pecuniary means are at hand, in order to give the mansion an effect, that one is bewildered to discover how the architect got out of the enigmatical hobble into which he plunged himself, to seek for novelty. Every story is a distinct order, as if the building were three flats for different families, instead of being the sole abode of a wealthy gentleman. Then we find a chaos of ornament, to astonish the eyes of an ignorant spectator: without reference to order, date, utility, construction, or meaning, they are introduced to cover the multitude of defects, which may be otherwise detected. But there cannot exist a more erroneous idea in the mind of man than this. All the ornamental details that can possibly be introduced on a design will have no effect in correcting errors—in fine, they are thrown away, when the main lines that represent the features of the building are inharmonious. And if a structure will yield pleasure to the mind, when decorated to the highest limit of artistic skill, it will look equally beautiful in its lowliest simplicity.

Though it was only intended to refer here to dwelling-houses, I cannot help making a remark on buildings so prominent in every large town—I mean warehouses. Here the window is the only principal trait; but it is repeated so frequently that a tasteful application thereof is indispensable. Consequently, we find very few warehouses that look even indifferent, none that look well. This arises from the contradictory habit of introducing windows which our eyes tell us are to be found in dwelling-houses; and it is quite displeasing to find a colossal building, erected for general traffic, without one truthful feature to distinguish it from the smaller edifices built for domestic use. It has openings, except the door, sometimes, of the same size as an ordinary house, which look like so many loopholes. These are disgraced with scraps of stone, mixed up confusedly with brick; and on this occasion the variety is so excessive, that it produces disgust. With judgment, care, and study, how may not this particular branch of architecture, the necessity for which did not exist amongst the Romans, be made beautiful and expressive of its mercantile character! On the window it solely depends, the design of which must be sought after with zeal and perseverance.

It may not be amiss to fall back on our predecessors, in this country, in order to copy out from their styles some features that will look well in domestic buildings. From them are the ideas to be obtained, with much greater probability of success, than from any person's confused notions of the present time. But it must here be admitted, that when about to copy from them, two points should be laid down, and not departed from:—

1. Never to introduce pointed windows in a mansion.

2. Never to introduce tracery in the lights of them; for these points being now fully established as belonging to the ecclesiastical department of our art, they should be allowed to continue so, as characteristic of a church.

The first step towards progress is to dispense with mere straight lines in window heads, and substitute in lieu thereof some arch of a truly geometric form, whether rectilinear or curved. Let the elevation assume either a triangular or a circular shape, but let it be uniform throughout in point of expression. If assuming the Saxon angle, the lower stories may have very depressed windows, and they can be made more pointed as we ascend; and if the circle be adopted, it would not be difficult to begin at the basement with low segments, and finish at the upper tier with semicircles. Further, make all ornament subservient to the general outline, and let no introduction of decoration destroy that contour. Continued sills altogether take away the effect of windows giving them the appearance of commencing the building again; whereas windows should be linked together, if at all, at their springings. Lightness with solidity, expression with repose, and ornament with chastity, is what I would wish to see. It can be obtained with perseverance, and making reference to examples we have before us—according to the manner in which they were used—not in the debased habits to which architects have been for many years accustomed.

The principal obstacle to progress in architecture is prejudice; and that will for a long time mar its success. Several who have become familiar with past discipline will scarcely ever be led to adopt the beautiful ideas of forthcoming progress. But they must pass away, and a new generation will erect upon their remains a fabric which will be permanent in its foundation and progressive in its improvement. That ages should change, and institutions improve, amend, and cast off their stale habits, and architecture not do the same, is paradoxical. It should also be changed scientifically with the spirit of improvement, adopting the new and well-altered opinions of mankind, and making its designs perfectly congenial to the existing generation, without sacrificing its artistic character. Should architects make a trial-change of the window in modern dwelling-houses, and endeavour to design the entire building in accordance with the adopted form, then, indeed, we may hope for some advance; and without looking for beauty or magnificence in palaces, castles, and mansions, the spirit would extend to the dwellings of the humble; and the smallest cottage in England may be made a gem of architecture.

There are two styles belonging to this country which may be well adapted to dwelling-house windows, and these are the Norman, in all its shades, and the Saxon. They could, by study (I do not mean to say that we can arrive at a satisfactory result by guessing at how they would look) and many repeated designs, be brought out to represent our wishes; and should we fail, by repeated designing, to bring out satisfactorily what we do desire, it is more than probable that a new style will spring out of the research, superseding their application, and suitable to all the purposes of modern domestic life.

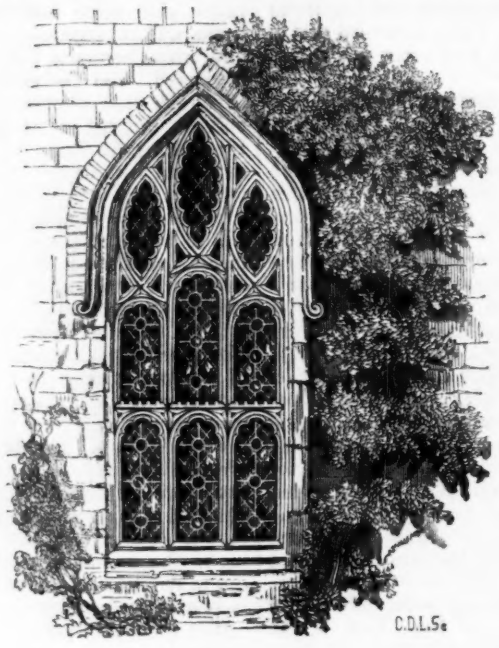
But there are many untried ranges in architectural science which may be ventured upon with a similar view in mind; or else, with the resolve to abandon them the moment we find that they are quite inapplicable. The ellipsis may be placed the narrow end upwards; the parabola may be used, and, indeed, the triangle can be employed, with great taste and infinite variety; and any person may venture to make the application without fear, because it is impossible that, in the attempt, he can commit greater errors than are now committed in the architectural designing of windows.

I am not an advocate for adapting old usages to new customs, but until we arrive at some perdurable conclusion, I must recommend that the ancient custom of constructing windows be followed out; and, in conclusion, I hope that I shall be excused, by practical men, for the boldness with which I have, through zeal, delivered my sentiments.

FRANCIS SULLIVAN.

DESIGNS FOR CARPETS.—We were glad to notice the other day in an advertisement from a carpet warehouse in the metropolis that the designs for the carpets were by eminent architects.

PERPENDICULAR WINDOW, DALLING.



PERPENDICULAR WINDOW, DALLING.

IN passing through the village of Dalling lately, I met with a note-worthy Perpendicular window, a sketch of which I inclose to you. The tracery and stanchions particularly attract notice. I am sorry I could not take any dimensions or a plan, but the peculiar form of the tracery is perhaps worth preserving.

J. W. H.

SIZE OF CAST-IRON BEAMS.

THE following is from a useful collection of tables to aid the calculation of water and mill power, drainage, &c. by Mr. Beardmore *:—

Table of Safe Load for Cast-Iron Beams, if equally distributed, expressed in Cwts.

For Beams 6 to 16 Inches Deep.

Rule.—Multiply the area which a proposed beam has to support, by the weight of the floor or bridge, and the greatest load, due to such area, all in cwts.; find the nearest corresponding number in the table, having the required depth and length, and the proper dimensions of the bottom flange will be found at top of the column. The tables also give the safe weight to be borne by beams of any of the stated dimensions.

Note.—Floors should generally be reckoned to carry 2.5 cwts. per foot superficial, including their own weight.

Road Bridges do. 5.0 cwts. do.
Railway Bridges do. 10.0 cwts. do.

but for railway girders of cast iron, beyond 18 feet span, only half the tabular numbers should be used.

BEAM SIX INCHES DEEP.						BEAM EIGHT INCHES DEEP.				
Dimensions of bottom Flange in inches.	4 × 1	5 × 1	6 × 1	8 × 1½	9 × 1½	4 × 1	5 × 1	6 × 1	8 × 1½	9 × 1½
Length, feet.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
5	133	166	200	333	391	177	222	266	444	521
6	111	139	166	277	326	148	185	222	370	435
8	83	104	125	208	244	111	139	166	277	325
10	66	83	100	166	195	89	111	133	222	260
12	55	69	83	138	163	74	92	111	185	217
14	47	59	71	119	140	63	79	95	159	187
16	41	52	62	104	122	55	69	83	138	163
18	37	46	55	92	108	49	62	74	123	144

BEAM TEN INCHES DEEP.						BEAM TWELVE INCHES DEEP.				
Dimensions of bottom Flange in inches.	5 × 1	6 × 1	8 × 1½	9 × 1½	10 × 1½	6 × 1	8 × 1½	9 × 1½	10 × 1½	11 × 1½
Length, feet.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
6	231	277	463	521	578	333	555	625	694	916
8	173	208	346	391	434	250	416	469	521	688
10	139	166	278	313	347	200	333	375	417	550
12	115	139	230	260	289	166	278	312	347	458
14	99	119	198	223	248	109	238	268	298	393
16	86	104	172	195	217	125	208	234	261	344
18	77	93	154	173	193	111	185	208	232	306
20	69	83	138	156	173	100	166	187	209	275

BEAM FOURTEEN INCHES DEEP.						BEAM SIXTEEN INCHES DEEP.				
Dimensions of bottom Flange in inches.	8 × 1½	9 × 1½	10 × 1½	11 × 1½	12 × 1½	8 × 1½	9 × 1½	10 × 1½	11 × 1½	12 × 1½
Length, feet.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.	Cwts.
8	486	547	607	802	875	555	625	694	916	1000
10	389	438	486	642	700	444	500	555	733	800
12	324	365	405	535	584	370	417	463	611	667
14	278	313	347	459	501	317	357	397	524	572
16	243	274	304	401	437	278	313	347	458	500
18	216	244	270	357	389	246	278	309	407	444
20	195	219	243	321	350	222	250	278	366	400
22	177	199	221	291	318	202	227	250	333	364

* Hydraulic Tables.—Waterlow and Sons, Parliament-street, 1850.

A NOTE FROM JAMAICA.

THE Lunatic Asylum at Kingston is progressing towards its completion. Mr. Harris is the architect. It is being erected under the superintendence of Mr. De Walden, the clerk of works. A market was lately erected in Kingston: it is a strange structure, and was designed by a carpenter, who was paid 10*l.* for his plan and five per cent. for his superintendence. It consists of brick pillars, 18 inches square, carrying a wooden roof. No provision against the weather has been made: it strongly resembles the buildings on estates in which the fuel is stored (structures of the rudest kind). To hide this magnificent conception, a screen wall, pierced with windows fitted with louvre blinds (called jalousies) has been put up; and so disgusted are many members of the corporation at the whole affair that it is probable an architect will be called in, as soon as the contractor shall have finished his contract, to give it a more respectable character. The parish church of St. Mary's, Port Maria, has at last been commenced: it is to contain 650 sittings, and is of Early English character. It consists of a nave, with north and south aisles, chancel, and robing-room, with tower at north-west angle. The western entrance is through the tower, which, for two stories in height, is square in plan, then takes an octagonal form, and is surmounted by a pinnacle of stone, carrying a plain metal cross and vane. There is a southern entrance; the window in western front is a triplet; the side windows of aisles are coupled lancets; the east window of chancel is a triplet, and the north and south walls of chancel are pierced by single lancets; the nave is separated from the aisles by octagonal pillars carrying moulded arches. There will be no clerestory. The passages of nave, aisles, together with the floor of chancel, will be paved with red and black tiles of Minton's manufacture. The sittings will be all open and free; cedar will be the material used. The pulpit, reading-desk, altar-rail, altar, and lettern will be of mahogany, of characteristic design; the font and altar-piece will be of Caen stone: the roof will be of pitch pine, framed with open timbers, and covered with white pine boarding, on which will be laid red tiles. The whole of the wood-work will be wrought and varnished. There is to be a gallery at the western end for the reception of the organ, and entered from the tower. The building is of the plainest and most simple character, and will not cost more than 3,300*l.*: the material employed will be brick, with stone dressings: the architect is Mr. Blayney Wm. Walsh.—The cathedral at Spanish Town is progressing slowly; the roof is on the nave; the funds are wanting for its completion.

PROPOSED CANAL ACROSS THE ISTHMUS OF DARIEN.

CAUTION TO CAPITALISTS.

"THE grand project of opening a communication between the Atlantic and Pacific Oceans, by means of a canal across the Isthmus of Darien, is again occupying the attention of the public mind both in Europe and America. The Nicaragua treaty is said to have passed the Executive department of the United States' Senate, and, should it be confirmed, there is not the slightest doubt of its meeting with the sanction of the British Government. The cost of this stupendous undertaking is estimated at about 5,000,000*l.* sterling; two-thirds of which sum the British minister at Washington (Sir Henry L. Bulwer) has guaranteed to raise among the London capitalists alone! Alluding to this subject the *New York Herald* says," &c. &c.—*Nassau Guardian*, June 15, 1850.

Without in any way pledging myself for the accuracy of the above statement, and leaving all responsibility on that head with the Editors of the *New York Herald* and *Nassau Guardian*, I cannot remain silent where there is even a reasonable probability of further and gigantic speculations being made with much British capital,—that is, much British happiness and independence being risked on the bursting or not bursting of a new South Sea Bubble,—without earnestly calling the attention of those concerned to what is probably their present position in this undertaking; and it is done in the hope that you, Sir, will enter into the matter with as much zeal and good spirit as you have shown throughout the mat-

ter of intramural burials and other sanitary questions.

Your paper is not called the "Master-Mason" or the "Journeyman Bricklayer;" neither is it confined to notices on constructional details and technicalities,—but is open, apparently, to the constructive art and science in general, and their interests af *all* descriptions. Such being, it is apprehended, the true import of the modest title of the "Builder," allow me to beg your assistance, on plea of civil engineering, in calling public attention to a certain description of hazard, of which I see no notice in any of the newspapers that reach this out-of-the-way colony, respecting the canal across the Isthmus of Darien.

When a resident in a certain disturbed district, some years ago, a friend asked my opinion as to the advisability of making investments in land there. In reply, he was recommended rather to bury his money on the edge of Vesuvius or Ætna,—he *might* possibly see it again, in some shape or other; but never more if sunk as he suggested.

This was, of course, said in the spirit of one who considered volcanic investments as somewhat venturous; but who could have supposed that the sober sense of Englishmen would ever dream of laying at least 3½ millions* *à cheval* of the *grand volcanic main or trunk* of the western world, without reflecting on the geological character of the district across which the line, whether for canal or railroad, must necessarily run!

We all know that a canal, especially at the locks, requires every possible care and attention in construction; and, granted that the engineers acquit themselves *perfectly* under all the disadvantages of climate, remote position, expensive indifferent labour and workmanship (with but little command over them), and frequently perhaps unsatisfactory material, who can warrant its remaining stanch for twenty-four hours together in a country (according to Stevens and others) "bristling with volcanoes," and liable *at any moment, at any point*, to convulsive disturbances of earthquakes? A slight shock will start any pair of gates from their fastenings, break up the masonry, unsettle the inverts, and unstanch either the lock or any other part of the undertaking,—especially in that vexatious way that, without throwing down a single brick or block of ashlar, so ruins the work that all must be taken down, to the grievous taking down and reduction of all dividends.

London papers have much artistic ability at easy command, and you, Mr. "Builder," will do the State good service by offering a small premium for the best "composition" illustrative of the effects of "*one night's earthquaking at a canal lock*," accompanied by an essay on the results of such commotions as regards the levels and general capability of holding water.† The like remark applies to railroads: in neither case can I learn that there is any insurmountable difficulty as regards either design or construction generally; though no one has as yet ventured, I believe, to estimate the rate per mile at which locomotive or other engines may venture to work with safety and confidence where the rails may be this way and here to day, that way and there to-morrow.

It is not, of course, meant that this will be the occurrence of every day, every month, or every year; but whatever risks may be permissible in light and temporary investments, the "Doctrine of Chances" must be utterly ignored when the outlay *will be* enormous, and the undertaking *is intended* to be permanent—for aye and for ever.

The hazard of life and capital would thus be almost indefinite, as far as railroads are concerned; the risk of capital would probably be greater than that of life as to canals in like cases; but whether life or capital be jeopardised abroad, the disturbing effects on English hearts, hearths, and homes would be terribly felt across the Atlantic.

Who would stake 1,000*l.* on the general quiescence of the volcanoes in the region in question for twelve months together? Who then ought to venture 5,000—*possibly* 10,000 *times as much* of either British or American prosperity and happiness—

> "Where the slumbering earthquake lies pillowed on fire,—
> Where the lakes of bitumen rise boilingly higher,—
> Where the roots of the Andes strike deep in the earth,
> As their summits to heaven shoot soaringly forth."—*Manfred.*

I beg, therefore, that this question may be *forthwith* submitted to those concerned, and who seem disposed to involve themselves in gambling speculations on the cast and throw of a volcano, with every odds against them. The assistance of the Geological and Geographical Societies may, it is presumed, be confidently reckoned upon in the preparation of a well-detailed plan of the Isthmus of Darien, containing all that has been noticed by Humboldt, Stevens, &c. &c.

Thus far, Mr. Editor—thus far, dear friends, lovers, and countrymen—I have spoken in a style directly in keeping, I hope, with the gravity of the question; but, "as many men have many minds," if the following syllabus of the whole be offered in a somewhat lighter tone, let it be considered as a change made to suit other tastes. Nevertheless, though given in real good humour, it is delivered against these measures in real good earnest—"A free and gentle passage of arms," with anything but barbed lances.

I pray you, then, dear Mr. Editor,—dear friends, lovers, and countrymen,—to study the works of Humboldt, Stevens, and all the writers on these,—the lands of "pitch and toss,"—very diligently; and bear well in mind the following (in some respects) logical series of "truismo-axiomatic" maxims:—

Maxim I.—Never build "castles in the air," for though imagination may at times supply reality, they, at least, want stability.

Maxim II.—Never build "chateaux en Espagne" (be it "old or new") on a sandy foundation; such also are generally wanting in stability.

Maxim III.—Never build a fixed engine-house or a station-house (especially refreshment-rooms) on the *summit* of a volcano; it may be dangerous, and most likely wanting in stability and permanence.

Maxim IV.—Never build any one of the above-mentioned at the *foot* of a volcano;* it will not be less dangerous and scarcely less wanting in stability and permanence. However, on the margin of the beautiful lake, between volcanoes Nos. 13 and 15, is a most tempting site.

Maxim V.—Never choose a residence near—still less immediately over—a powder-mill; it *may* not blow up, or it may, but the insurance offices would certainly think it a "doubly hazardous investment" of life, limb, and property.

Maxim VI.—Never construct public works, such as canals, with numerous and very expensive locks, railroads, &c. &c. very near, still less immediately over, the hollow ground of unknown, inexplorable, and ever variable subterranean labyrinths, from "any one point of which to any other point" (with all the latitude of Euclid's two first postulates in choice of such points), Plutonic communications and earthquake notices can be delivered with an energy in nowise short of that obtainable by the explosion of gunpowder.

Maxim VII.—Always count the cost of your undertakings, especially when the neighbourhood of gold-mines renders it likely that the amount will be poetically indefinite.

Maxim VIII.—The tarry-at-home speculators need never trouble themselves on the sanitary questions in which their servants, the Local Adventurers, are involved; but as these have some interest in the said questions, "they will find something to their advantage" if they will consult pages 339, 343, Stevens, vol. i. for general statements; and their individual application to even the passing traveller in pages 314, 369, 370.* The mortality among our troops in Ceylon, Corfu, and other places, *whilst employed* on making roads through forests or otherwise disturbing accumulations of decayed or decaying vegetable matter, should not be forgotten.

R. J. NELSON,
Captain, Royal Engineers.

Nassau, Bahamas.

P.S. Since the above was written, the mail steamer has brought the May papers with confirmation of this untoward affair: we have no time to lose,—*Laissez aller! Ventre à terre!*

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* The 5,000,000*l.*, quoted by the *Nassau Guardian*, is possibly taken from Stevens's work, as given (at p. 414) by Mr. Bailey, at least ten years ago, on "the *usual* contract prices in the United States," at from 20,000,000 to 25,000,000 dollars. It is hoped that a severe audit and scrutiny will be made in London on the *data and computations* on which estimates submitted to the British nation are based. The United States Government are at this moment paying 2½ dollars (10*s.* 5*d.*) to carpenters and masons, and 1½ dollars to labourers on the fort now being built at Caq West, at the south-west end of the Florida Reef. What then, may we ask, will be the wages of *mechanics*, and the dependent prices of work, whether in stone, wood, or metal, when so near California? Sinbad's shipwreck on the Loadstone Mountain was occasioned by all the iron fastenings and bolts being drawn out thereby: in the neighbourhood of such a magnet as the gold country, who can calculate on the number of hands that will be attracted thither *at the expense of the Canal Company*,—and the wages that must be paid to prevent the like desertion by those that remain? No legal document *can* bind in such cases; the gold streams of the west will prove to be the long-sought "Universal Menstruum"—capable of dissolving every bond and engagement, and of solving every possible case of conscience. What then becomes of the poor innocent 5,000,000*l.*, with the lockage for the two canals, amounting to 2,094 feet of vertical dimensions? The tunnel scheme (p. 413) may turn out to be like "tapping a furnace;"—Brunel's shield would be but an indifferent protection against a burst of lava, or boiling water. By the way, Mr. Editor, can you tell us how a "deep" 2-mile cutting and 1 mile of tunnel, "for the largest steamers," is to dispose of 919′— (64′+ say 10′)=845 feet of lockage on both sides of ridge of the isthmus?

† In a pamphlet on the recent tornado in this island (now in the press of J. Day, Melton Mowbray), I have given two sketches of "havoc," which, though by a different agency, may serve as the "motivo" for such design, should the first quotation fail as a stimulus to invention.

* The canals may perhaps plead fair exception, as the water volcanoes may be reckoned on occasionally for, at least, filling them; nay, a ready supply of boiling water will be a point of economy for locomotives; but mud and cinder volcanoes must be avoided, that is, if we can always predict the ejectamenta.

THE NATIONAL GALLERY AND KENSINGTON.

Mr. DOYLE'S opinions on the removal of the National Gallery to the site of Kensington Palace are evidently prompted by a commendable desire to get over a great difficulty, and to extend the advantages already afforded to the public, both of intellectual improvement and recreation; but it is to be regretted that a work so replete with kind intentions should have been written and published without reference to authentic evidence, and, therefore, in direct opposition to the facts.

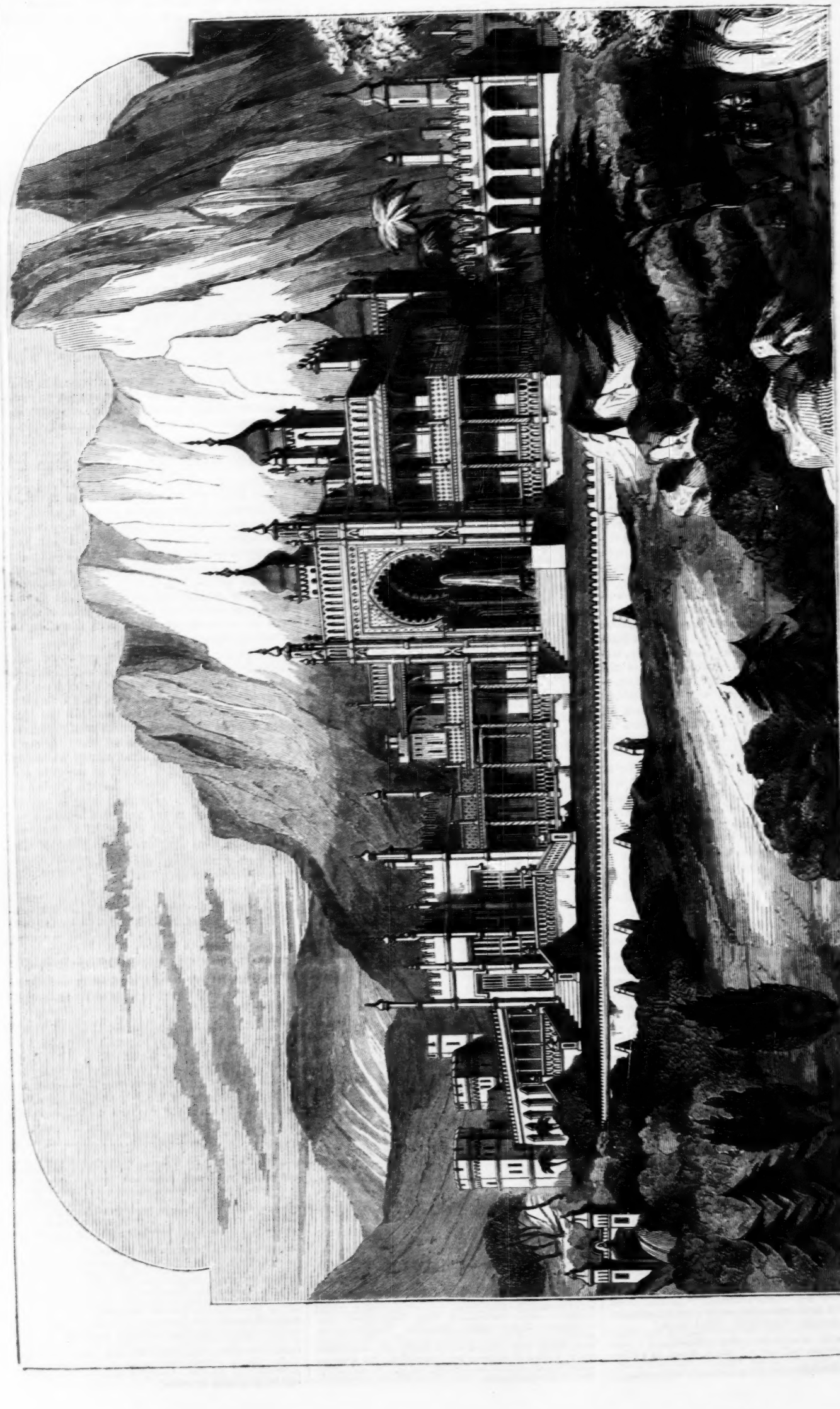
Supposing that as many persons would visit the national collection if removed to Kensington as at Trafalgar-square, Mr. Doyle says in his letter to Lord John Russell (see THE BUILDER of last Saturday), "My lord, we have the light of experience to guide us in this matter. I have no exact statistics to refer to, but I believe I am correct in stating that nearly as many people visit Hampton Court as our National Gallery at Charing-cross." As Mr. Doyle had not the statistics to refer to, I beg to supply the deficiency, in round numbers, from the returns published by the House of Commons. From them that gentleman will see, that the "light of experience" exhibits results more than fourfold against his opinion. The numbers are—

	1840.		1849.
At the National Gallery ..	503,000	—	775,000
At Hampton Court.....	122,000	—	180,000
Shewing an excess in favour of the National Gallery of	381,000	—	595,000

With, I am happy to say, increasing numbers at both, but that increase constantly in favour of the National Gallery.

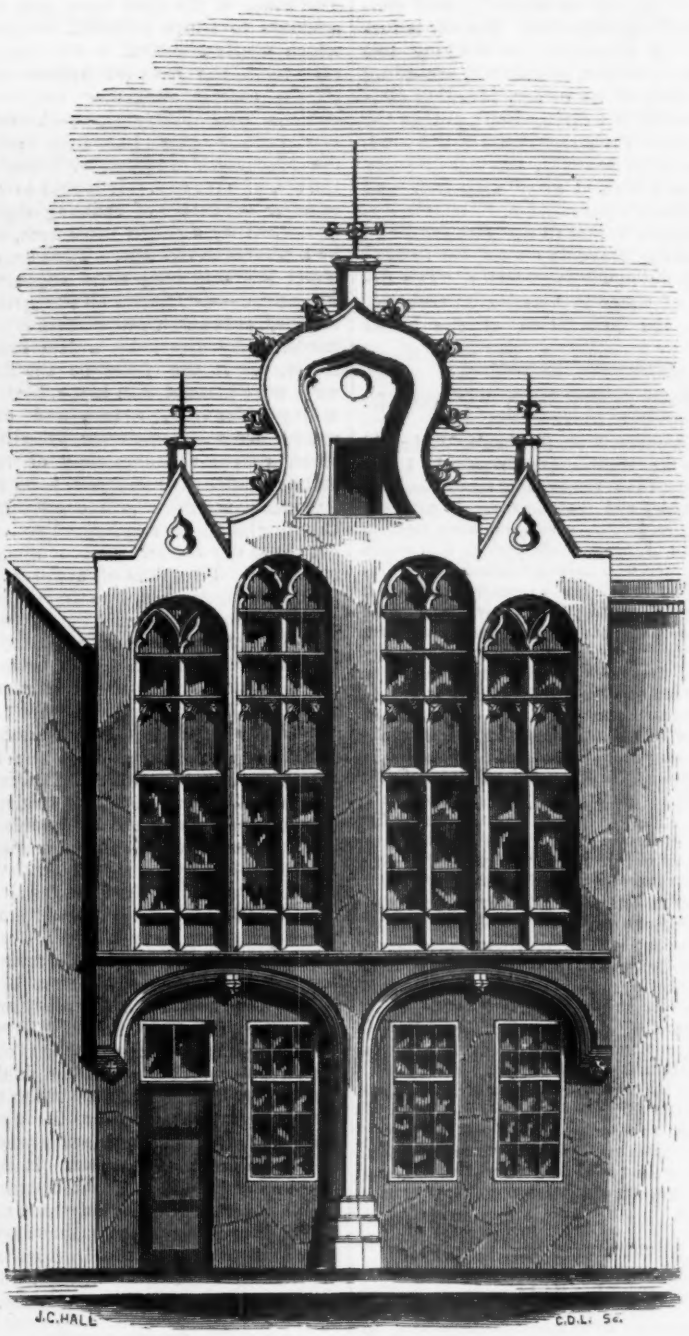
If Mr. Doyle intend to pursue the interesting subject, I shall be happy to give him further information on objects which have, for many years, employed much of my time, as secretary to "The Society for obtaining free Admission to National Monuments, &c.," which information has been obtained for the use and benefit of the public. GEO. FOGGO.

* Stevens, vol. i., pp. 266, 267 (Antigua, Guatemala):—"On each side were the ruins of churches, convents, and private residences, large and costly, some lying in masses, some with fronts still standing, richly ornamented with stucco, cracked and yawning, roofless, without doors or windows, and trees growing inside above the walls." . . . . "This was the second capital of Guatemala, founded in 1542, on account of the destruction of the first by a water volcano. Its history is one of uninterrupted disasters." . . . . "Many severe shocks of earthquake were felt at different periods; the one in 1565 seriously damaged some of the principal buildings; those of 1575, 1576, 1577, were not less ruinous. On the 27th December, 1581, the population was again alarmed by the volcano, which began to emit fire; and so great was the quantity of ashes thrown out and spread in the air, that the sun was entirely obscured, and artificial light was necessary in the city at midday." And so on, reciting eruptions, earthquakes, sickness, and all sorts of disasters in the years 1586, 1601, 1651, 1686, 1717, 1773, "The most melancholy epoch in the annals of this metropolis: it was then destroyed, and (as the capital) rose no more from its ruins."



ALAUPHA, THE RESIDENCE OF PRINCE WORONZOW.—MR. EDWARD BLORE, F.R.S., ARCHITECT.

ANCIENT HOUSE, BRUGES.



ALAUPHA, THE RESIDENCE OF PRINCE WORONZOW.

THIS palace is erected on the south of the Crimea, facing the Black Sea. The property on which it is built was purchased by the Prince of the Tartar proprietors, in small lots, this being the general principle on which the greater part of the property in this part was held previously to the Russian nobility establishing themselves as residents there. The character of the country is peculiarly beautiful, and the climate delightful: it is sheltered at the back by lofty precipices rising to the height of 2,000 feet, and open to the south to the sea breezes. The space between these precipices and the sea averages about six miles, and is broken into the most irregular and picturesque forms, combining, along with vast masses of rock, the most luxuriant vegetation, and the greatest fertility.

The designs were made during the Prince's residence in London in the year 1836, by Mr. Edward Blore, architect, and the works were commenced in the following year, a clerk of the works having been sent out to superintend workmen, to act as foreman, and instruct the native workmen; and materials of various kinds were also sent out, particularly cast-iron for ornamental purposes, lead pipe, locks, hinges, and all such other matters as the country either did not supply or made of a very inferior quality.

The arrangement of the plan was necessarily very much regulated by the unequal nature of the ground, and the masses of rock interposed between its several parts. The front is, consequently, very much elongated, and presents no continuous face or line. The material used is granite, the only building material to be got in abundance in the neighbourhood, with small portions of freestone for the more delicate ornaments, where great labour was required.

The building occupied about three years in its erection, and it is a curious fact connected with it, that its first occupant was the present Emperor of Russia, who resided in it a short time during his stay in the Crimea, on his progress through the southern provinces of his vast empire.

It ought to be stated, that, in consequence of Prince Woronzow's family connexions with England, and his having resided for a considerable portion of his early life in this country, he was desirous that one of the fronts of his palace should be designed in the style of the ancient domestic architecture of this country, whilst the opposite front should, in compliment to its local connexion, be rendered more Asiatic. In accordance with this wish, the entrance front was, therefore, designed in the former, and the garden front in the latter style, with such an admixture of the two styles as was necessary not to render their combination and necessarily close approximation too violent for good taste. The accompanying view represents the garden front.

The stabling and offices, which are of very considerable extent, do not appear in this view; neither does the library, a fine large room in continuation of the front, for which there is not room in the engraving.

ANCIENT HOUSE, BRUGES.

BRUGES, the City of Brick, is eminent for the picturesque variety of its street architecture. The crow-stepped gables of the Austrian and Spanish periods are everywhere contrasted with the fantastic forms of the Renaissance and subsequent styles. There is considerable difficulty in ascertaining the precise date of these buildings, but the approximate period to which they belong may be determined at a glance. One of the earliest is that on the "Grande Place," called the Prison of Maximilian, wherein, A.D. 1486, that emperor was confined by his turbulent subjects. The incessant troubles, both foreign and domestic, which afflicted Flanders throughout the sixteenth century could have left but little leisure for the practice of the fine arts, but the commencement of the seventeenth century brought the enlightened government of Albert and Isabella, which, together with a twelve years' truce, was productive of the most beneficial results to the Low Countries. To this period, contemporary with that of our James the First, are attributable the majority of these interesting buildings. The accompanying illustration represents a house on the "Rue Flamands," and may be taken as a type of its class, although it presents some peculiarities: these are, first, perforated tracery heads in two of the upper windows, which are very uncommon, the window opening generally finishing square, and the semicircular head being filled in with *blank* tracery, as in the other two upper windows. The other peculiarity is the form of the gable, which is usually crow-stepped, but here presents a compound curve crocketted.

These interesting houses lose much of their effect from the monotony imparted to them by the universal application of whitewash, in the use of which the Flemings of the present day emulate the most zealous English churchwardens of olden times.—J. G. H.

MASTERS AND MEN.

AT Stourbridge, on Wednesday week, a chain manufacturer charged a workman, with whom he had contracted for twenty-four months, with deserting his service. On the part of the workman (Homer) it was objected to the written agreement—Firstly, That it was bad for want of mutuality. Secondly. That the magistrates had no jurisdiction, because the work agreed to be done by Homer was by way of contract; and there was no relation of master and servant between his master and himself. Thirdly. That the agreement was null and void under the 1 & 2 Wm. 4, c. 47, s. 2, in consequence of the weekly deduction for a stipulated sum, for blast, &c. Counsel (Best, M.P.) was consulted, and on his opinion the magistrates acted in deciding to commit Homer for one month to hard labour, with the option, however, of returning to his work, which latter Homer preferred. Three other men employed on verbal agreement, with fourteen days' notice mutually, were ordered to return to work, failing which, to suffer each one month's imprisonment with hard labour. The men complained that their wages were reduced without any notice. They were strongly advised by the magistrates to return to work and give their masters the fourteen days' notice, and assured that if refused the wages agreed on without notice, the magistrates would protect them by making orders on their masters to pay the full amount. This appeared to satisfy the men, who also consented to return to work.——A great anti-truck meeting was held at Tipton on Monday in last week, when 5,000 to 6,000 nailers, chain-makers, miners, manufacturers, tradesmen, and others attended in the Castle Meadows notwithstanding uninterrmitted rain, and resolutions for the effectual suppression of the tommy-shop system and the amendment of the Truck Act, were unani-

mously passed, as were also addresses to the Admiralty and the East-India Company praying them to refuse to contract with truck masters.——The operative glass makers, convinced of the evil and inutility of strikes, have called a conference of operatives in all branches of the flint-glass trade, chiefly with the view of organising a system for the removal of the surplus labour at present prostrating the manufacture, and taking other steps to benefit their condition generally. Birmingham, from its central situation, was chosen as the seat of the conference, which met on Thursday last to consult on these measures. The places represented, according to the local *Journal*, are London, Edinburgh, Dublin, Birmingham, Manchester, Glasgow, York, Bristol, Belfast, Newcastle-on-Tyne, Waterford, St. Helen's, Warrington, Tutbury, Longport, Rotherham, Catliffe, Haverton Hill (near Stockton-on-Tees), Dudley and Holly Hall, Stourbridge, Wordsley, Hunsleet (near Leeds), and Worsborodale (near Barnsley). Various resolutions have been agreed to, and are to be reported.——One of the staple branches of the Sheffield manufactures—the table-knife hafters—have been on strike for higher wages during the last five weeks. The object of the workmen is to obtain the rate of wages settled with the employers, and constantly paid from 1843 to 1847. In the latter year wages declined considerably, and they have not rallied with the general improvement of trade. "If a committee were appointed on each side," says our contemporary the *Sheffield Times*, "surely it would not be difficult to arrive at a just decision." This unhappy town requires a grand committee of all hands, masters and men, to turn over the new leaf which all there seem to have stood so long in need of turning.

SIGHTS AND SCENERY.

Panorama of Constantinople and the Dardanelles.—The Exhibition Theatre, adjoining the Polytechnic Institution in Regent-street, has been re-arranged to receive a panorama of Constantinople, the Bosphorus, and Dardanelles, by Mr. Thomas Allom,—a country at this moment an object of considerable attention. It is scarcely necessary to say to our readers who know Mr. Allom as an architect, that he has excelled most in the delineation of the buildings, and that the drawing of the panorama is superior to the colouring. The figures and landscape in parts seem to have been hurried, and we should suggest to the artist, now the work is done, to go over some of these portions again, so as to make all uniformly good. We should recommend, too, shutting out the daylight wholly, and an occasional variation of the artificial light, to increase the effect of particular passages. In the second part of this panorama, the Street of Tombs, the Mosque of Eyoub, the Bath, the Subterranean Palace, the Fountain of the Seraglio, St. Sophia, &c. are especially interesting and beautiful. The fidelity of the painting has been attested by those who know well the route, and we sincerely hope that the pains and ability of the artist will be acknowledged and rewarded by the public. Such works are of the greatest value in an educational point of view; the pleasant and ready means of getting knowledge which they offer should be taken advantage of by all.

The Vanbrugh Club.—We mentioned the doings of this club of young architect-actors last season with commendation and a well-meant caution. On the 18th inst. they played very ably "The School for Scandal" and "Charles XII." They know too well what they are about to suppose it was—

> "From such deep rudiments as these
> Van is become, by due degrees,
> For building famed, and justly reckoned
> At court Vitruvius the Second."

The rogues have cleverly got the professor of architecture at the academy on their side, by quoting on their play-bill his remark that "when the drama has flourished, so have the sister fine arts, especially architecture." "Argals," perhaps they say, "if we aid the drama we help architecture."

Vauxhall Gardens.—Amongst the novelties with which the proprietor of this ancient place of *délassement* for the Londoners is spiritedly seeking to maintain the popularity they have once more acquired, is a new balloon, aspiring to the credit of having a will of its own. It is of an oblong shape, placed horizontally, and contains comparatively little gas. The car is furnished with an apparatus for working two large fans and a rudder, to enable it, according to the statement of its owner, Mr. Bell (evidently the reverse of a diving-Bell), to take the course that pleased it best, in spite of the wind. The wind, on trial, however, was not disposed to give in, and walked away with fans and rudder. We have often expressed a conviction, and still entertain it, that to navigate the air in opposition to the prevailing wind, the balloon must ascend by power, not levity. The decomposition of water in America, as reported, may involve the production of the power needed.

REPAIR OF ST. STEPHEN'S, WALBROOK.

As the parishioners of St. Stephen's, Walbrook, are about having their church repaired, I am induced to suggest that the building should undergo a *thorough* repair, and that they should not limit the outlay to the 1,000*l.* which has been voted to the repairs, for I hear a whispering, that comes from practical men who have examined the building, to the effect that it really requires double that amount to effectually and permanently complete the repairs. It is proposed, in the present instance, if I am correctly informed, and I think it is pretty near the mark, that the exterior is to have but a "lick and a promise." Surely this is wrong in such a building as the one under consideration, with its dome of difficult access, as regards the interior; and the fewer times scaffolding has to be raised there, so much the more will it suit the majority of parishioners, I guess. I wonder who would dream of beautifying the interior of any building for a year or two, and leave it liable to serious derangement by the roof undergoing a repair. Our building is superior to most parish churches; let us not fall into disgrace, not only with immediate neighbours but foreigners of architectural taste, all of whom visit the noble edifice, it being a model of its class; but let us take it up as a national monument of architecture, which it certainly is, and have it thoroughly restored and beautified.

The procedure of obtaining specifications and contracts is a curious one: the advertisement for surveyors' specifications is to include builder's tender therewith, but the advertisement contains no such information. The builder to have his own private surveyor to examine and direct his works, seems a somewhat novel mode in these days, and suggests doubts as to the wisdom of those concerned in the direction of the repairs.

A PARISHIONER.

RAILWAY JOTTINGS.

THE Ambergate line from Nottingham to Grantham was opened for passenger traffic on Monday in last week. It runs up the Midland line as far as Colwick, when it branches off to the right, and stretches through Ratcliffe, Bingham, Aslockton, Elton, Bottesford, and Sedgbrook, to Grantham. A viaduct crossing the lowlands near Ratcliffe, and a bridge crossing the Trent, are considerable works on the line. The contractors were Messrs. Wilson.——A branch line is about to be formed by the Eastern Counties Company from Shelford to Shepreth. The company, we perceive, has taken a hint from the Building Committee of the International Exhibition, by charging five guineas each set for lithographed copies of the plans and specifications of the proposed works.——The works on the Buckinghamshire line from Islip to Oxford (six miles) are shortly to be executed, as are those also of the Taw Vale line from Umberleigh-bridge to Crediton, about twenty-six miles in length. The directors of this railway mean to work the line from Penthill to Crediton (thirty-six miles) by contract.——Mr. Brassey, it is said, has contracted to construct the Shrewsbury and Hereford line, with all necessary works complete, for 345,822*l.* including the electric telegraph. Mr. Brassey takes shares to the amount of 50,000*l.*——The third tube at the Britannia-bridge is now permanently fixed. The arrangements for floating the fourth and last tube have been completed, and Mr. Stephenson is expected immediately to superintend the operation, which will take place on the 25th.——The number of persons employed directly and indirectly by railway companies, says a contemporary, is about 43,000, and the quantity of land occupied by upwards of 4,000 miles of railway and stations is, say 50,000 acres. The whole of the local rates paid by railways amounts to above 340,000*l.* or 350,000*l.*, of which nearly 300,000*l.* is the produce of the rate upon the lines of railway (viz. about 40,000 acres), altogether exclusive of the stations and buildings.——A model of a new railway gate has been exhibited at the Mechanics' Institution, Lincoln, by Mr. Carver, of that city. It is said to possess the peculiar advantage of enabling eight gates to be opened by a single movement, and closed by a reverse movement. The idea seems very much like one long since suggested in THE BUILDER.——"Nearly all the great roads of France," says another contemporary, "are to be bordered by trees, by a late order of the Ministry. If the slopes on the English railways were planted with beech, lilac, mountain-ash, guelder-rose, acacia, and other ornamental trees of moderate growth, it would much relieve the monotony of railway travelling."—BUILDER again.——Among the American novelties is a contrivance by Mr. Cunningham, of Reading, Pennsylvania, to get rid of the dust which accompanies railway travelling. By means of a fan at the top of the carriage, worked by strap from the axle-trees, a continued succession of jets of air is thrown through a slit across the carriage windows. As the valves can be connected or disconnected at pleasure, the currents of air are under complete control. Six to eight carriages may be connected by flexible hose with such an apparatus, and the whole fitted up, it is said, for about 25 dollars. Besides arresting dust, the temperature of the carriages in summer might also be comfortably cooled and regulated through invisible sheet-air *windows*, such as these. We would recommend them to the special notice of the East-India Company, who, by the way, as appears from a Parliamentary return just issued, have been forwarding specific instructions to Calcutta and Bombay regarding the construction of the East Indian and Great Indian Peninsular lines. In these instructions, given in the form of a running commentary on the contracts entered into, the directors decide on having double lines at once, except on branches. As to the stations and offices to be erected, the despatch expressly insists upon the extravagance practised in England being shunned. It appears also from these documents that instructions were forwarded to India in May last, that so soon as Mr. Simms, the Government engineer, shall have completed his duties in Bombay, he is to proceed to Madras, for the purpose of conducting a survey in that presidency.

MEMS. PROVINCIAL.

THE Freemasons' Asylum at Croydon Common is to be consecrated on 1st proximo.——Plans are about to be decided on for draining the town of Epsom and supplying it with good water.——The parish church of Luton, Beds., is about to be provided with gas-fittings.——The Reading Cattle Market Company are shortly to decide on plans for the arrangement and erection of a cattle market-place at Reading.——About 500 tons of stone are now being deposited daily by 800 convicts at Portland Breakwater. The piles are injected with creosote under pressure for preservation.*——The members of the Gloucester Archæological Association on Tuesday week visited the village of Bredon, its old church and camp, &c.——On a recent visit of the Duke of Bedford to the national schools at Tavistock, sixty-four of the tenants of the new cottages erected at Westbridge sent a deputation to his grace, with an address of thanks and gratitude for the boon conferred on them in the possession of such cottages, at rents so low as those charged. These tenants, it appears, with families amounting to 381 persons, had previously occupied about 106 rooms, or, on the average, one and three-quarters to each family, at 3*l.* 17s. 6d. a year of rent; whereas they now possess 320 rooms, or five to each family, with yards, pighouses, gardens, &c., and good drainage, ventilation, and water, at 3*l.* 18s. a year each

* Creosote, or spirit of tar, is now believed to be the preserver of the human tissues mummified by the Ancient Egyptians as well as by the modern American Indians.

family.——A powder magazine establishment with four large magazines, tanks, drainage, &c. are about to be formed near Devonport for the ordnance, on plans prepared at the local office of Royal Engineers.——On Thursday week the chief stone of an enlarged building for the Plymouth Mechanics' Institute was laid on the site of the original building, which was erected in 1827 for 300 members, increased latterly to 800. Part of the south front is to be incorporated with the new building. A bottle containing a scroll of particulars was found in razing the old building. When exposed to the sun it suddenly exploded—the bottle, not the scroll—which latter recorded the names of Mr. John Foulston as the architect, and Mr. W. Burgoine, the builder. A new bottle with scroll recording the names of Messrs. Wightwick and Damant as the architects, and Mr. T. Marshall as the builder of the new institute, and accompanied by the old scroll, was placed in the new foundation.——Efforts are being made to erect national schools in Limekiln-lane, Tranmere. Land has been presented by the lord of the manor, and plans by Mr. Barry. ——It is intended very shortly to make a survey and valuation of the rateable property of the parish of Birmingham.——A monument has just been erected in St. John's church, Manchester, with a shilling subscription, in memory of William Marsden, who presided over the committee which obtained for Manchester, in 1843, the Saturday half-holiday. The design was by Messrs. Travis and Mangnall, architects, executed by Mr. John Mowbray, jun. of Cheetwood, and is in the Gothic style, divided into three niches, in its width, filled with sculpture in high relief, those on either side intended to represent mental and physical improvement,—the chief objects for which the half-holiday was obtained. The monument is in stone from Caen.——A new beam engine of 150 horse power has been erected at the Hull Waterworks. The cylinder is 75 inches in diameter, stroke 10 feet; length of beam, 34 feet 8¾ inches. Each stroke raises 315¾ gallons of water; quantity per minute, 2,841¾ gallons, or 2,046,060 gallons in twenty-four hours. There are nearly 300 tons of iron in the engine.——The decorative renovation of Holyrood Palace for the anticipated visit of her Majesty and the Prince to Edinburgh in the autumn is nearly completed. The project for a statue in the quadrangle is in successful progress, and the work is to be entrusted to Mr. H. Ritchie, sculptor.——The citizens of Edinburgh are endeavouring to enable Mr. Park to execute his colossal statue of Sir William Wallace. On Thursday in last week a preliminary meeting was held in the Royal Hotel, to promote measures to have a cast made from it. The work has been in progress for some time, and is ultimately intended to serve as a model for a group commemorative of one whom popular legend has long regarded as the "deliverer of Scotland." The Lord Provost presided. Mr. Sheriff Gordon proposed a resolution in favour of a subscription for enabling the model to be completed, and a cast in plaster made, to be then exhibited, to enable the public to judge whether it should be erected in a more permanent form. The resolution was cordially adopted, and about 70*l.* subscribed, including handsome contributions from the Duke of Buccleuch, the Marquis of Breadalbane, the Lord Provost, the Solicitor-General, Mr. Sheriff Gordon, Professor Wilson, and various others.

DECAY OF ENCAUSTIC TILES.

HAVING several encaustic tiles to spare from the paving of the chancel of my church, I accidentally piled them upon one another and placed them in the middle of the floor of a newly built room in my house, which was plastered all round. The windows of the room were open all day to admit the sun and air to dry the plaster, but were closed at night. The tiles remained unnoticed in the room about three weeks. At the end of that time, when the tiles were about to be removed elsewhere, it was discovered that those which were of a blue coloured pattern were shivered into many pieces, while the plain red and buff coloured pattern ones were uninjured. Were the broken tiles affected by any influence of the hot lime on the walls of the room, or the hot steam from the walls when the windows of the room were closed at night? I cannot account for the circumstance otherwise, as the blue tiles have now been laid down nearly four years in my church, and all are still perfectly sound.

GEORGE BURMESTER.

We cannot account for the circumstance mentioned. An encaustic tile properly made and fired, could not be affected in such a manner by any ordinary agency, atmospheric or chemical. In order to test the suggestion we caused several blue and buff tiles to be immersed in a *covered* pail with a quantity of flare lime through the whole process of slaking, and then plunged into cold water, but we need hardly say without the slightest effect. If we had one of the tiles *not broken*, the circumstance could probably be explained.

Books.

Specification and Estimate, with Plans, Sections, &c., of a Pair of Cottages for Labourers, by Mr. H. GODDARD, Architect, for which the Royal Agricultural Society awarded first prize. London: Messrs. Dean.

Messrs. Dean have published the plans, &c. of this design, uniform with the designs by Mr. Hine, and Mr. S. J. Nichol, (previously published by them), to which the Society of Arts awarded prizes in 1848. The cost of the pair of cottages is set forth at 200*l.* 17s. 11d. and the offices 34*l.* 15s. The plan does not present any peculiarities.

The Family Friend, vol. 2. London: Houlston and Stoneman, Paternoster-row.

Few perhaps of the little volumes made up by periodical instalments possess more varied and improving matter of interest to the young, and even to the old, than the one just handed us for review,—namely, the 2nd vol. of the "Family Friend," now issued. This little journal forms a neat and handy volume, well got up in all respects. The circulation, it appears, has increased from 50,000 monthly at the close of the first volume, to 75,000 fortnightly, at the present time. Nearly all it contains is copyright matter, of which, including numerous woodcuts, we have 380 pages for half-a-crown. It comprises mechanics, cookery, gardening, poetry, music, statistics, pastime, tales, needle-work, receipts, and a host of other subjects, with an appendix of useful and curious matter.

In turning over the leaves of this little work we may incidentally remark that we have stumbled on a brief note, which we may here quote, both as a small specimen of its own style and as an accidental and pleasing coincidence with the subject of a note of our own some weeks ago on the decomposition of water and oxygen. "Although these bodies (the 'elements') have hitherto resisted all attempts at decomposition, it is highly probable that many of them will be proved to be compounds: indeed, it is possible that all matter may be composed of one material or ultimate atom, the varied position or electrical condition of which produces the variety of form and nature which we perceive in the bodies we now term 'simple bodies' or elements. Sir Isaac Newton entertained this idea, and many distinguished men have expressed a similar opinion. If this discovery were made, the dreams of the alchemists would be practicable, as the transmutation of metals is but the disintegration and rearrangement of atomic particles. For some interesting speculations on this subject, we refer our readers to 'MacVicar's Elements of Nature.'" It will probably be found that not only the electrical force, but the magnetic also is at work in the composition of both oxygen and water, and that hence *the diamagnetic force*, no less than the actinic, or at least the electro-negative, must be brought into play in their demoleculization, or decomposition. Practical chemists, interested in the reported though still doubtful discovery of Mr. Paine, we may further refer to "Graham's Chemistry," and to our own remarks,* on the probable esoteric constitution of such "elements" as the metals.

NEW LAUNDRY, &c., ST. PANCRAS PARISH.—The vestry of St. Pancras have determined to erect a new laundry and kitchen at the back of the workhouse,—cost about 2,000*l.* Mr. Lockyer architect. The industrial training school for this parish is nearly completed.

* Vide, on Metals in a previous volume.

Miscellanea.

SOCIETY OF ARTS.—The annual distribution of prizes took place on the 22nd instant. Lord Colborne in the chair. The secretary read the council's address, from which it appeared that 250 members had joined the society since the last report. A sum of 7,288*l.* odd had been contributed to the International Exhibition of Industry, by members. A special prize list for 1851 was then announced, and the prizes for the present year were awarded by the chairman. The list alluded to relates to treatises on the international exhibition and its several sections.

SCOTTISH FINE-ART ASSOCIATION.—The annual general meeting of the Royal Association, at Edinburgh, for distribution of works of Art, and other purposes, was held on Saturday last in the Music Hall, George's-street, the Lord Provost in the chair; when the secretary, Mr. J. A. Bell, read the report of the committee of management, from which it appears that the amount of subscriptions for the year is 3,480*l.*, of which 1,258*l.* have been expended on painting, 405*l.* on sculpture, and 775*l.* on engravings. Resolutions were passed, and the prizes drawn by ballot as usual.

WESTMINSTER.—The Wesleyan Norman schools in the Horseferry-road are making rapid progress, and will startle by their size and extent those who see them for the first time. They are of Bath stone and brick, of the Perpendicular period, and are being built by Messrs. Curtis, under the direction of Mr. Wilson, at a cost (we are told) of about 20,000*l.* An octagon lantern over the entrance to second quadrangle may be seen at some distance around.——The church in St. Anne-street is getting fast on towards completion: it has a very large east window.——The public baths and washhouses are being built close by.

THE WANT OF A COMMON CENTRE IN LONDON FOR MEASURING DISTANCES.—No defect in our improved modern metropolis is more inconvenient than the want of some particular point from which the various roads should be measured. At the present time there are no less than ten or eleven different places from which distances are calculated, and all of them very wide apart. The catalogue runs thus:—Hyde-park-corner and Whitechapel Church, the Surrey side of London-bridge and of Westminster-bridge, Shoreditch Church, Tyburn-turnpike, Holborn-bars (long since removed), "the place where Saint Giles's Pound formerly stood," and "where Hick's-hall formerly stood," "the Standard in Cornhill" (of which the exact site is unknown), and "the Stones' End in the Borough," which moves with the extension of the pavement. Thus the exact distance of any place cannot be known without minute inquiry and a local knowledge of London. One remedy would be in adopting the mileage from the Post-office, the frontage of which could not be more appropriately adorned than by an obelisk, which would become a "London stone," inscribed with the names and the distances of large provincial towns, similar to that which stood in the Forum of ancient Rome. The vicinity likewise of St. Paul's Cathedral, one of the most conspicuous buildings in London, recommends the Post-office especially for this object, and the turnpike-road trustees would not refuse to accommodate their milestones to it, under the direction of the Post-office surveyor.

G. J. R.

WIDE ESTIMATES.—I beg to forward you a list of tenders delivered for building two houses in Bonner's-fields, Hackney.

Boyson and Walsham.....	£900	0	0
Wheen.....	896	0	0
Bugg	867	0	0
Gerry	819	0	0
T. Smith.....	775	15	6
Pittman	765	0	0
Simmons.....	750	0	0
Rudkin	750	0	0
Smith	740	0	0
Pilbeam	720	0	0
Cooper	717	0	0
Taylor.....	705	0	0
Loynes.....	698	12	0
Walker and Soper.....	698	0	0
Hill and Son	665	0	0
Cooper and Bottomley	625	0	0

Any comment on the above would be useless. —A COMPETITOR.

STRAIGHTENING A CHIMNEY.—A large chimney at Thornes has long been overhanging the centre of its base, from four to five feet, and ere long this huge mass of 200 tons of brickwork would, in all probability, have fallen. To prevent this, Mr. Green, engineer, of Wakefield, was engaged to bring it back to a perpendicular position. The workmen commenced, under his directions, to cut out about four-fifths of one course of bricks near the bottom of the chimney, taking care to fill the cavity thus made with a mixture of new lime and earth. During a heavy gale of wind, the last brick was just cut out, and, as was expected, during this last operation the chimney began to move slowly but perceptibly, the new lime and earth gradually yielded to the immense pressure, and were removed, so that in three hours the open space of nearly four inches, which had been made as above described, closed. The chimney had lowered on one side nearly four inches, and gone over at the top more than four feet to a perpendicular position. —*Wakefield Journal.*

GREAT FIRES.—Another fire broke out on the 4th of May, at San Francisco, on the spot where that in December originated, and houses and property which cost 4,000,000 dollars were destroyed. The fire is said to have been the work of an incendiary,—an emigrant from Sydney. In ten days everything was proceeding as if nothing had occurred. In one place the frame of a new gambling-house was prepared and laid as soon as the flames had consumed the old and a space could be cleared on the hot foundation, where, accordingly, another "Hell" was erected, and by night "drove a good business," as usual. The buildings were all of wood.——The news of this fire had scarcely reached us, when it was followed by accounts of another at Philadelphia, in which it is reported that at least 400 houses, valued at 1,000,000 dollars, were destroyed, and the flames still raging with unabated fury. In both of these fires lives have been lost, but especially in the latter, where several explosions increased the mischief.—— From another quarter we have no less startling intelligence. A telegraphic message from Berlin announces that a dreadful fire broke out on the 18th at Cracow, which laid waste a great part of the city, and consumed the archbishop's palace, besides other public buildings. ——The arrival of a vessel at Hull almost simultaneously brings news from St. Petersburgh of a tremendous fire which had broken out in the neighbourhood of the warehouses on the river there on 16th inst. Owing to a strong wind there was every probability, it is said, that the conflagration would extend.

GAS APPARATUS.—In your notice to correspondents I find you have applications to know how to construct an apparatus for making gas for domestic use. In answer I beg to state that I have an apparatus for lighting my own premises, constructed on a very small scale, consisting of furnace, retort, vessel for purifying, and gasometer, the whole occupying a space of only 5 feet square. The material used for making gas is the refuse of the kitchen, such as grease or fat of any description, it matters not how dirty, as the whole is burnt off in the retort: it produces a brilliant white light far surpassing any gas made from coal. I have had it constantly in use for eighteen months, and no bad results have occurred, although it is in a thickly-populated neighbourhood. The apparatus is not at all expensive; it consists of only three vessels, and can be adapted to any number of burners. Sufficient gas can be made in one hour to supply one burner for a sitting-room for twelve hours at a cost of about threepence halfpenny. It may be seen in operation at 34, Howard's-green, City-road.—R. H. T.

EXHIBITION BY BOOKBINDERS' FINISHERS' ASSOCIATION.—The third annual exhibition of designs in the biblical branch of decorative art took place on Monday and Tuesday last in Museum-street, when a still more varied and interesting collection of designs than even heretofore were presented to view. These ranged from the ancient and monastic to the most recent novelty in this elegant branch of art. Amongst them, too, were a selection of rich and curious Hindu, Persian, Chinese, and other Oriental book boards; and altogether the exhibition was a very interesting one, which proved—full measure of justice being done to the ancients—that these tasteful and varied book decorators have not managed to steal all the merit and the novelty away from their modern brethren. Besides rubbings of many tasteful and ingenious designs by living and other modern finishers, a piece of fancy workmanship by an apprentice of six years' standing really merits special notice. This consisted of a table clock case, richly ornamented with not a little of the talent and fancy as well as the enthusiasm of youth. Amongst the more ancient designs we perceived a copy of one from Stowe, given in our pages in February of last year, together with a quotation from THE BUILDER itself attached to it.

FALL OF A CONE AT GATESHEAD.—An inquest has been held on the bodies of two men killed at Mr. Price's glass-works, by the fall of one of the cones. The jury, however, could not decide as to the cause of the fall of the cone, which was built in 1837, and altered about four years since, when 35 feet out of 55 feet were taken down and carried up again perpendicular and 9 inches thick. Two fans were fitted in 12 or 14 feet above the furnace by way of experiment, to move the machinery of the works by the power of the draught of air up the chimney cone, which it did, but too slowly. No evidence, however, was given to show that either the fans or the alterations could have weakened the cone, the opinions given being, on the contrary, that they could not have done so. The evidence, however, was not so unanimous as to the insertion of a new furnace of fire-brick lumps, which was alleged, by one witness, to have been fitted in without sufficient room for expansion. Cones also are apt to crack when new furnaces are put in.

PAPERING ON DAMP WALLS AND CURE OF DAMP.—A patent, it is said, has been taken out for a fluid containing chiefly india-rubber and gutta percha (dissolved, we presume, in turpentine or naptha, with, it may be, a little boiled oil), for brushing into damp walls as a preparative to papering or painting. It dries into a waterproof film in a couple of days, and will then take on either oil paint or paste for paper. It may also be brushed on the papers themselves, and form waterproof papers. In painting new wood-work, according to the *Patent Journal*, this preparation prevents subsequent shrinking, swelling, or cracking, and obviates the necessity of priming for knots, when used as a first coat, or mixed with paint. We should think one of its most important uses, however, if it adhere properly to the wall without blistering or bursting in warm rooms, would be the suppression of damp itself in walls and floors, without any special reference to the papering or painting of such surfaces. The substance may be one that will sink into *porous* walls, where, having a good hold, and being tenacious, (with the unelastic gutta percha in particular), it may be able to suppress any tendency of the damp to escape into warmed apartments.

BRITISH ARCHÆOLOGICAL ASSOCIATION. —On the 10th, Mr. Pettigrew, V.P., in the chair, exhibitions were contributed, by Mr. Lindsay, of Cork, of a drawing of a small crucifix of silver, originally gilt, and apparently as early as the thirteenth century; by Mrs. Graham, of Chichester, the impression of a coin of Allectus, found between the lead lining and stone of the font of West Wittering Church; by Mr. Elliott, a Flemish earthen jug of the sixteenth century, found on the shore at Dymchurch, Kent, having on its surface a series of subjects in relief, with inscripsions in Dutch; by Mr. Baigent, a series of coloured drawings of paintings, found in Wellow Church, Hants, consisting of two crowned heads from the spandrils, and scrolls round the jambs of the windows, of the thirteenth century; also a drawing of a tile, now in the library of Winchester Cathedral, of about the same date, representing an archbishop, and a drawing of a coin, found in the garden of the Benedictine Convent at Winchester, and many interesting seals, by Mr. Chalmers. Mr. J. Moore and Dr. Pettigrew commented on bones found at Hamhill, Yeovil. Mr. C. Baily read an account of Roman and other antiquities found during the excavations for the foundations of a house in Mincing-lane. In this place Roman buildings of two periods were distinctly traced, the floors of each remaining, and between them were discovered the base and capital of a column, a Purbeck marble mortar, fragments of Samian ware, &c.: and many varieties of mediæval pottery, &c., were found in the ground above. The meetings were then adjourned to the congress meeting, which will commence, at Manchester, on August 19th.

BUILDING FOR EXHIBITION OF 1851.—Is it possible that the Royal Commissioners have really thrown the whole 245 plans to the winds, their own bantling, and the seventeen contractors' into the bargain, and sanctioned the erection of a hothouse to hold the proposed exhibition? It seems almost incredible that any body of men in their natural senses could expect manufacturers to expose their costly productions in an immense hothouse, where they would be liable to rapid deterioration, if not to total destruction, by the leakage and condensation inseparable from glass roofs, to say nothing of the dust from the roads through the open luffer boarding of every third compartment, and a scientifically moistened atmosphere produced by the ventilating currents being made to pass through "coarse canvass," which is to be "kept wet in hot weather" to "render the interior of the building *much cooler than the external atmosphere.*" Exhibitors of bright metal-work will regard this proposal with unfeigned astonishment. The internal atmosphere of the building is to be *specially* moistened by the evaporation of water from ventilating blinds of wet canvas, as though the moisture of our English climate were not sufficient to combat against in preserving unoxidized their wares.—T.

BRISTOL.—The restoration of St. John's Church (the tower of which is over the north gateway of the city), is being proceeded with. Messrs. Marmont and Lloyd are the architects. ——The recent fire near St. James's Church affords an opportunity to open to view the very interesting west end of that church. It is of the Norman period, and has a circular window of very curious design. It is much to be desired that this opportunity will not be lost.——The first stone of the High-cross, proposed to be erected on College-green, is to be laid in the beginning of next month. The stone to be employed, we are told, is from Nailsworth, in the county of Gloucester.——On Monday week the foundation-stone of a new British day school was laid in St. George's parish, Gloucestershire (Bristol). It is to be of stone, with school 62 feet by 32 feet, for 200 to 300 scholars: estimated cost about 600*l.* Mr. Crisp is the architect, and Mr. Lee, of Bristol, the builder.

GLAZED IRONWARE.—A report to the French Society of Arts speaks favourably of the vitreous glaze adopted by M. Paris in place of tin, zinc, or lead, on the surface of ironwares. It prevents oxidation, and withstands acids, though not alkalis. In domestic use it prevents food from being tainted with the metallic taste. Sheet iron chimneys are recommended to be thus glazed, especially those of laboratories and manufactories liable to oxidation.

ANOTHER LONDON MONUMENT TO SIR ROBERT PEEL.—On Tuesday last a public meeting was held in Willis's Rooms to promote the erection of some lasting monument at the west-end of the metropolis in honour of the late Sir Robert Peel. The Earl of Aberdeen presided; and the meeting was addressed by the Duke of Wellington, Lord Ashley, Lord Hardinge, and other noblemen and gentlemen. Appropriate resolutions were passed, and a subscription was opened with sums amounting to upwards of 1,600*l.*

MR. FRANCIS WHISHAW announces "An Evening" (August 2nd.), to be devoted to "Illustrated Passages in the Life of an Engineer during the last Thirty Years." We regret to learn, from the terms of the announcement, that Mr. Whishaw's success in life has not been such as his efforts might have been expected to ensure.

TENDERS

For building malting, granary, and maltster's house for Mr. H. C. Wells, East Dereham, Norfolk, Mr. T. Bray, architect:—

Mundford and Cushing	£1135 0 0
Greenhill	1030 0 0
Hubbard (accepted)	1025 10 0

TO CORRESPONDENTS.

"F. F."—If we did nothing else we should not have time to write "by return of post" to all who make this most unreasonable request. Nor can we advise on private matters unless applied to professionally.

"J. J. L." must not expect many letters from us. What suits us will be used.

"R. W. T.," "A. C.," "L. C.," "Cosmo," (the fissures and defects in the vaulting of south aisle, Redcliffe Church, have been made *evident* by removal of the whitewash: other parts are probably as bad), "C. B. A." (need not fear submitting anything to us that is interesting to the public or profession. We have received many statements from competitors for the '51 exhibition, urging the merits of their own plans, but could not find room for them), "G. W." (too late), "G. W.," "Lord E.," "F. S.," "M. P.," "Mrs. P.," "H. L.," (under our mark), "B." (ditto), "J. M." (ditto), "W. C.," "A Reader" (cannot reply without seeing premises), "A. G." (two letters), "J. M." (next week), "F. L.;"—"The Antiquities of Richborough, Reculver, and Lymore, in Kent," by C. Roach Smith, F.S.A., and F. W. Fairholt, F.S.A. (London, J. Russell Smith, 1850); "The Commercial Handbook of Chemical Analysis," by A. Normandy (London, Geo. Knight and Sons, 1850).

ERRATA.—A subscriber says, that in our correspondent's notice of the Hemlock Stone, near Nottingham, "Risby" ought to be *Risley*; "Sandyam," *Sandiacre*; and "Whamscote House," *Bramcote House*.

"*Books and Addresses.*"—We have not time to point out books or find addresses.

NOTICE.—All communications respecting *advertisements* should be addressed to the "Publisher," and not to the "Editor:" all other communications should be addressed to the EDITOR, and *not* to the Publisher.

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January, 1, 1850.

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HEAD OFFICE—26, St. Andrew-square, Edinburgh.
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The nineteenth annual general meeting was held at Edinburgh on 7th May, 1850.
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The Profits or Bonuses may, in the option of the Assured, be applied thus:—
1st. They are added to the Sum Assured, payable at Death; but
2nd. They may be commuted into a present payment to the Policy Holders; or
3rd. They may be applied in reduction of the future annual premiums.
The following is a View of the Progress of the Society down to 1st March, 1850.

	Amount Assured.	Annual Revenue.	Accumulated Fund.
	£	£	£
At 1st March, 1832	67,200	2,032	1,898
Do. 1835	325,611	11,364	24,661
Do. 1838	824,275	30,508	71,191
Do. 1841	1,569,570	55,536	153,329
Do. 1844	1,919,292	68,920	263,713
Do. 1847	2,761,381	99,270	400,503
Do. 1850	3,306,354	120,978	572,317

Table of Rates and Form of Proposal may be had (free) on application at the Society's Office, 61A, Moorgate-street, City.
WILLIAM COOK, Agent.

PROVIDENT LIFE OFFICE, 50, Regent-street; City Branch: 9, Royal Exchange-buildings.—Established 1806. Policy-holders' Capital, 1,180,722*l.* Annual Income, 148,000*l.* Bonuses declared, 743,000*l.* Claims paid since the establishment of the Office, 1,886,000*l.*
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EXAMPLES OF THE EXTINCTION OF PREMIUMS BY THE SURRENDER OF BONUSES.

Date of Policy.	Sum Insured.	Original Premium.	Bonuses added subsequently, to be further increased annually.
	£.	£. s. d.	£. s. d.
1806	2,500	79 10 10 extinguished.	1,222 2 0
1811	1,000	33 19 2 ditto	231 17 8
1818	1,000	34 16 10 ditto	114 18 10

EXAMPLES OF BONUSES ADDED TO OTHER POLICIES.

Policy No.	Date.	Sum Insured.	Bonuses added.	Total with additions to be further increased.
		£	£ s. d.	£ s. d.
521	1807	900	982 12 1	1,882 12 1
1174	1810	1,200	1,180 5 6	2,380 5 6
3302	1820	5,000	3,538 17 8	8,538 17 8

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1¼ in. yellow, per sq.	20s. 0d.	1 in. spruce, per sq.	13s. 0d.
1 " " "	17s. 6d.	¾ " " "	11s. 9d.
1¼ " " "	14s. 9d.	½ " " "	10s. 6d.

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1 inch	.. .. ..	1s. 6d. "

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BATH STONE.—RANDELL and SAUNDERS, Quarrymen, Bath, have appointed MARTIN and WOOD their sole agents in London. M. and W. beg to inform Architects, Masons, Builders, &c., that a large assortment of the much approved CORSHAM DOWN and other BATH STONE will always be kept at the Depot, opposite the Great Western Railway Station, Paddington. Orders will also be received at Market Wharf, Regent's-park Basin.

HAYTOR GRANITE COMPANY (incorporated by Royal Charter) continue to supply their SUPERIOR GRANITE from the QUARRIES at FOGGINTOR, on DARTMOOR, at MODERATE PRICES. The Nelson Memorial; Statue of King William, City; and the large Graving-dock at Woolwich, are specimens of this material.—Offices, No. 4, Millbank-row, Westminster; and Granite Works, Laira, Plymouth; where information may be obtained.
By order of the Directors, C. C. D. HOAR, Clerk.

DEVON HAYTOR GRANITE from the Original Quarries, Haytor Rocks, Devon.—This superior Granite can now be supplied to any extent. Orders for the largest sizes of Granite Blocks can be executed with the greatest ease from these Quarries, and at low prices. Cargoes supplied direct to all parts. Specimens of the Devon Haytor Granite may be seen at the following places, viz.:—London-bridge, Goldsmiths' Hall, Fishmongers' Hall, Christ's Hospital, George the Fourth's Room in the British Museum, and the Great Arch of Tothill-fields Prison, &c. The trade are invited to inspect this Granite. A stock kept at the Company's Depot, Devon Haytor Wharf, Rotherhithe, London. Application for prices to be made to Mr. G. H. CLARK, sole Agent, address as above.

BRAMLEY FALL STONE, from the Fair Head Quarries, Yorkshire.—Depôt, DEVON HAYTOR WHARF, ROTHERHITHE, LONDON; GEORGE H. CLARK, Sole Agent.—Engineers, Railway Contractors, Stone Merchants, Masons, and others, are invited to INSPECT this SUPERIOR SANDSTONE, which can be supplied to any extent, and at a very low price. It is well adapted for docks, bridges, embankments, sea walls, railway works, and all buildings where sandstone is used.—Further particulars may be known on application to Mr. G. H. CLARK, as above, where a good assortment of blocks is kept. Cargoes supplied direct to all parts of the coast. Samples may be seen at the Office of "The Builder," 2, York-street, Covent Garden.

CAEN STONE, SELECTED FOR EXTERNAL WORKS.—LUARD, BEEDHAM and Co., Quarry Proprietors and Importers from Allemagne.
AUBIGNY STONE from the Quarries, near Falaise, Calvados Department.—Aubigny is of similar colour to Portland Stone, its texture finer, price and labour of working about the same.
RANVILLE STONE from Ranville Quarries, near Caen, Normandy.—Suitable for strong works, wharf and quay walling, price and labour similar to Caen Stone.—Depôt, Caen Sufferance Wharf, Rotherhithe.—Information and samples supplied from the Office, 18, Southwark-square, Borough.

CAEN STONE.—P. FOUCARD, Quai des Abattoirs, Caen (propriétaire des Carrières à Allemagne), offers CAEN STONE guaranteed from the first quarries at Allemagne, at 1s. 1d. per cubic foot, delivered to vessels or waggons (free of expense), from the depôt at the Whitby and Scotch Wharf, 14, Fore-street, Limehouse.—Contracts taken for any quantities.—Cargoes shipped to order, from Caen, to any part of the coast, on the same terms.—Apply to P. FOUCARD, at the Office, 39, Stoney-street, Borough Market; or to Mr. S. WEBSTER, at the Wharf.—Samples to be seen, and references to be had, at Mr. MARSH'S, No. 3, Charlotte-row, near the Mansion House.

TO BUILDERS, CONTRACTORS, &c.
GREY-STONE LIME, of the best quality, may be had at Whitehall-wharf, Cannon row, Westminster, at 7s. 6d. per yard; or at Hanover-wharf, 52, Edward-street, Regent's-park, at 8s. 6d. Barges will be loaded at the Works, at Halling, at 5s. 6d. per yard; or delivered alongside any wharf in London at 6s. 6d.—Apply to CHARLES FORMBY, Esq., Lime Works, Halling, near Rochester; or Mr. TREMAIN, 52, Edward-street, Regent's-park.

GREY-STONE LIME.—HALL, Brothers, Mersham Lime Works, near Reigate, beg to offer to Builders and others a list of their prices for Cash on delivery.

Grey-Stone Lime	6s. 0d. per Yard, or 22 Bushels.		
Ditto, for Manure	4s. 0d.	ditto	ditto
Ditto, Ashes	1s. 6d.	ditto	ditto
Black ditto	3s. 0d.	ditto	ditto

In not less than Six Yard quantities, and put on the Railway for all goods stations on the London and Brighton, and South-Eastern Railways, or lines connected with them. A fresh supply hot from the kilns daily, at the Bricklayers' Arms and Croydon Stations, and delivered to all parts.
Prices for Cash on delivery:—7s. per yard at the stations or works; 8s. per yard delivered within five miles; in not less than 2-yard quantities. Booking, 2s. per yard; 1s. per yard off if paid monthly. Collecting charged for. The Quality is warranted to be the Best.—Address, Mersham, near Reigate, Croydon; or Youl's-place, Old Kent-road.

TO BUILDERS, CONTRACTORS, AND OTHERS.
GREAVES'S BLUE LIAS LIME and CEMENT, direct from the works, Stockton.—RUTTY and VEREY beg to inform the Trade that they continue to supply Blue Lias Lime and Cement as usual at No. 2, Wharf, Paddington, only. Also Glaze Drain Pipes.—N.B. No other lime kept at the wharf.

BLUE LIAS LIME, PLASTER, &c.
THOMAS FREEN and CO. having con- nected with their ROMAN CEMENT WORKS an extensive Manufactory of GROUND BLUE LIAS LIME and PLASTER of PARIS, beg to call the attention of Builders and others to the very superior quality of these articles, which they are prepared to supply upon the most reasonable terms.
WORKS—Tuscany Wharf, Regent's Canal, Kingsland-road, London.
DEPOTS—Lee's Wharf, Paddington; and Phœnix Wharf, Greenwich.
N.B. Grey and Chalk Lime, Paving Bricks, Tiles, Artificial Stone, Plasterers' Hair, &c. &c.

BELL'S PATENT LIQUID CEMENT is ready for use, and only one-eighth the cost of oil-paint. For beauty it is pre-eminent, giving the exact appearance of FINE CUT STONE. Can be used at once on fresh Roman Cement, or any other plastering, and will protect the walls as well as Roman Cement. In casks of 1, 2, and 3 cwt., at 8s. 15s. and 21s., casks inclusive.
PATENT MINERAL PAINTS,
Invaluable for cheapness, beauty, and permanence: not half the cost of other paints, always ready for use, will keep good for years, and therefore well suited for exportation. Brilliant black, 2s.; rich browns, 2s. 9d.; greens and light colours, 4s. per gallon.
G. BELL and Co., 2, Wellington-street, Goswell-street.

ATKINSON'S CEMENT.—This Cement has hitherto been manufactured in Yorkshire, and, through long detention at sea, has often proved stale and unfit for use on its arrival in London. By the arrangement now made, the Cement will be manufactured in London, and thus presented to consumers in a fresh and genuine state, by the sole Agents, J. B. WHITE and SONS, Millbank-street, Westminster.

KEENE'S and PARIAN CEMENTS, for internal stucco, are employed very advantageously in place of wood for skirtings, architraves, and panel mouldings, and for in-door flooring, instead of stone. The peculiar properties of PARIAN Cement allow of its being painted or papered upon within a few hours of its application, and thus render it an important substitute for common plastering in those cases where expedition and beauty of finish are essential.—J. B. WHITE and SONS, Millbank-street, Westminster, Patentees of KEENE'S Cement, Licensees of PARIAN Cement.

PORTLAND CEMENT, as manufactured by J. B. WHITE and SONS, possesses all the properties of the best Roman Cement, but has the advantage over that material of wholly resisting frost. When used as a stucco it does not vegetate or turn green in damp situations, and requires no colouring. Employed as an hydraulic mortar for brickwork, it carries four to five measures of sand to one of cement, and is proved by trial to become harder and stronger in these proportions than Roman Cement with but one measure of sand. This superior connecting power, combined with its eminently hydraulic properties, point it out as the fittest material for building sea and embankment walls, the lining of reservoirs, cisterns, and baths, and for all those purposes where strength and a perfect resistance to water are required.
Manufacturers—J. B. WHITE and SONS, Millbank-street, Westminster, and 36, Seel-street, Liverpool.

PORTLAND CEMENT, solely MANUFACTURED by WILLIAM ASPDIN, Son of the Patentee.—Messrs. ROBINS, ASPDIN, and Co. request reference to No. 296, page 491; and also Nos. 284 and 285, page 343 and 351 of "The Builder," for accounts of EXPERIMENTS on the strength of Portland Cements, whereby the great superiority of their Cement is manifest. This Cement has been proved for upwards of twenty years in the Thames Tunnel to resist the action of water; it is stronger in its cementitious qualities, harder, and more durable than any other description of Cement; it does not vegetate, oxydate, or turn green; nor is it affected by any atmospheric influence whatever the climate, resisting alike the action of frost and heat. It is manufactured to set in from five to sixty minutes. For all purposes that Cement is applicable the Proprietors challenge competition.—Orders received by Messrs. ROBINS, ASPDIN, and Company, at their Manufactory, Northfleet, Kent, and their Wharf, Great Scotland-yard, Whitehall; also at their Depôt, 46, Hanover-street, Liverpool.

THE PARIAN CEMENT, for INTERNAL STUCCO, which you supplied at Messrs. J. & R. MORLEY'S warehouses and dwelling in Wood-street, Gresham-street, in the City, has been used throughout the premises, in every story; altogether about ten thousand yards superficial, chiefly upon recently built walls, and a small portion upon timber partitions, and that with the most perfect and satisfactory result. I feel it also necessary to observe, that the plasterer's work was almost invariably followed up on the next day by the painters, thereby enabling me to have the buildings complete in the shortest possible time, both for business and for the occupation of the establishment. I am, therefore, of opinion, that the use of this new material is a most valuable feature in building operations, and fully justifies that which I was given to understand, viz., that it was an extraordinary material. I think it right to mention that I am at the present time having a great extent of similar work executed at another range of buildings, where time and the quality of the work are of the utmost importance.
(Signed) JNO. WALLEN, Architect, London.
To Messrs. Chas. Francis and Sons, Manufacturers, Nine Elms.

JOHNS and Co.'s PATENT PERMANENT STUCCO WASH, CEMENT, and PAINT.—The attention of the trade and the public generally is solicited to these very excellent and well-known materials, which, for their beauty, durability, imperviousness, and cheapness, are unequalled. THE PERMANENT WASH, as a substitute for common lime-wash or water-colour, is an article which has long been wanting for stucco and brick-work; it is of a stone colour, but may be tinted to any other; is perfectly dry in twenty-four hours; will not wash off; is very little dearer than the common washes; and, being a non-absorbent, is admirably adapted for railway stations, union workhouses, schools, barracks, prisons, &c. One cwt. is sufficient to cover, with two coats, 250 square yards. THE CEMENT, from the great reduction in price, and its suitableness for internal as well as external surfaces, places it above all other materials of its kind; it has no caustic qualities; may be painted or papered in a few days; never blisters, cracks, or vegetates; soon becomes as hard as stone; and may be cleaned with a brush and water. The merits of the PAINT are well known for its application to stucco work of all kinds, and external work generally. Numerous testimonials, prospectuses, and every information may be obtained, on application to the Sole Agent, PHILIP HARE, at the Warehouse, 23, Steel-yard, Upper Thames-street. A liberal allowance to wholesale dealers.

MARTIN'S PATENT
FIRE-PROOF AND ORNAMENTAL CEMENT,
APPLICABLE FOR
ALL INTERNAL PURPOSES WHERE PLASTERING IS REQUIRED.
This invaluable Cement has now been before the public so many years, and obtained so high a standing in the estimation of all who have used it, that it is unnecessary to comment on its merits. Messrs. STEVENS and SON however feel called upon to observe, that from the greater extent of surface which a given quantity of MARTIN'S will cover, as compared with other Cements for internal use, there will be found a gain of 16½ per cent. in material, full 7 per cent. less in price, with an additional saving in labour of 10 per cent., by its allowing about forty minutes for working, being less than one-tenth of the time of other cements of a similar nature, therefore worked with greater facility, making together the enormous saving of full THIRTY-THREE PER CENT.; its advantages therefore cannot admit of doubt. Specimens, showing its beauty, hardness, and applicability to all plain and ornamental purposes, may be seen; and the Cement, in any quantity, obtained of Messrs. STEVENS and SON, at their Plaster and Cement Works, 186, Drury-lane, London.—Manufactory, Derwent Mill, Derby.
N.B. This Cement will receive paint or paper in a few hours after the completion of the work by the plasterers.

LEAD, WATER-CLOSETS, &c.— Plumbers and builders supplied with Patent Pipe, Cast and Milled Lead, in sheets or cut to dimensions; also Pumps, Water-closets, and every description of brasswork used by plumbers, at WILLIAM DENT'S Manufactory, 21, Newcastle-street, Strand.

ZINC, from the VIEILLE MONTAGNE MINING COMPANY, is the purest known, free from alloy of iron, lead, or sulphur. It is supplied in spelter for brass founders, &c., and in sheets for ship sheathing and roofings of all kinds, and nails of all dimensions. It may be had at the following Agents', who have always a large stock in hand:—
London—Messrs. Charles Devaux and Co.; Mr. Charles Jack; Mr. William Skirrow.
Birmingham—Mr. John Barwell.
Liverpool—Messrs. E. Zwelchenbart and Co.
Manchester—Messrs. Richard Johnson and Brother.
Leeds—Messrs. J. G. and T. Heaps.
Hull—Messrs. J. Parker and Sons.
Newcastle-upon-Tyne—Mr. Benjamin Plummer.
Leith—Messrs. Robert Anderson and Co.
Glasgow—Messrs. A. G. Kideton and Co.
Bristol—Messrs. Morgan McArthur and Co.
Plymouth—Messrs. Luscombe, Driscoll, and Co.
Southampton—Mr. W. J. Lefeuvre.
Yarmouth—Messrs. John Shelley and Co.
Zinc from 20 to 24 oz. per square foot is generally used for roofings, which come at least one-third cheaper than slate coverings; and the ship sheathing, which lasts from five to six years, comes two-thirds cheaper than copper or yellow metal. And if the zinc coverings are made of the Vieille Montagne Zinc, and under the superintendence of Mr. FREDERICK BROWN, the surveyor of the Company (for which no charge whatever is made), a guarantee will be given of its durability.—For further particulars and prices, apply to Mr. H. F. SCHMOLL, General Agent for England, at the Company's Offices, No. 12, Manchester-buildings, Westminster-bridge, London.